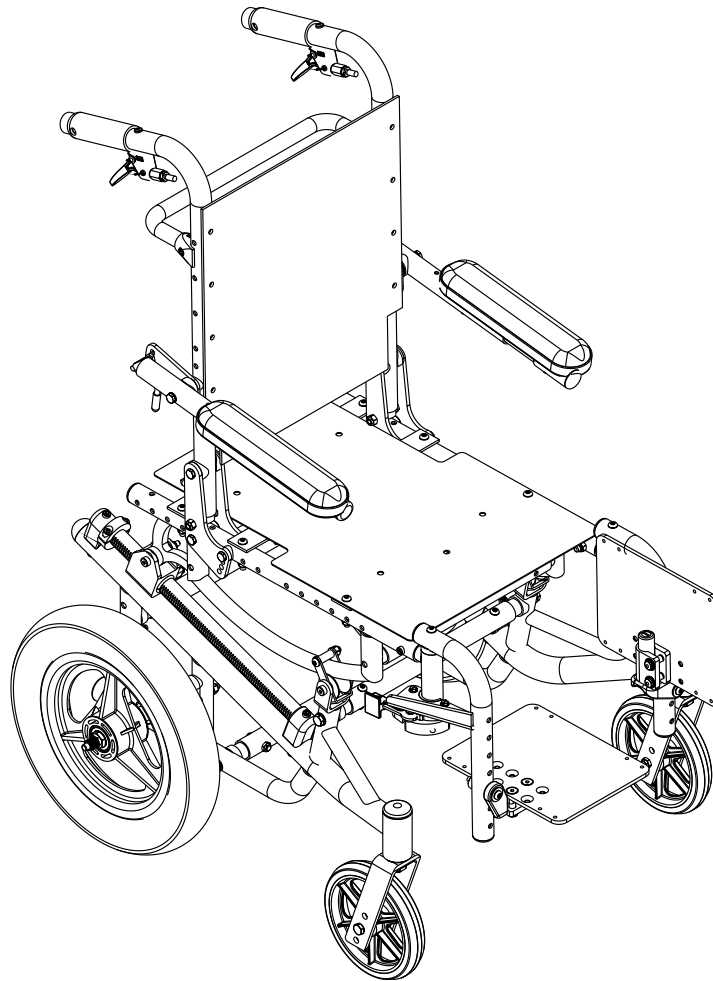


# Owner's Operator And Maintenance Manual

## **Solara jr.**™



**DEALER:** THIS MANUAL MUST BE GIVEN TO THE USER OF THE WHEELCHAIR.

**USER:** BEFORE USING THIS WHEELCHAIR, READ THIS MANUAL AND SAVE FOR FUTURE REFERENCE.



**Yes, you can.™**

## **WARNING**

**DO NOT OPERATE THIS EQUIPMENT WITHOUT FIRST READING AND UNDERSTANDING THIS MANUAL. IF YOU ARE UNABLE TO UNDERSTAND THE WARNINGS, CAUTIONS, AND INSTRUCTIONS, CONTACT A HEALTHCARE PROFESSIONAL, DEALER OR A QUALIFIED TECHNICIAN BEFORE ATTEMPTING TO USE THIS EQUIPMENT - OTHERWISE INJURY OR DAMAGE MAY RESULT.**

**THE INITIAL SET UP OF THIS WHEELCHAIR MUST BE PERFORMED BY A QUALIFIED TECHNICIAN.**

**PROCEDURES OTHER THAN THOSE DESCRIBED IN THIS MANUAL MUST BE PERFORMED BY A QUALIFIED TECHNICIAN.**

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**SAVE THESE INSTRUCTIONS.**

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## SPECIAL NOTES

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**WARNING/CAUTION** notices as used in this manual apply to hazards or unsafe practices which could result in personal injury or property damage.

### NOTICE

**THE INFORMATION CONTAINED IN THIS DOCUMENT IS SUBJECT TO CHANGE WITHOUT NOTICE.**

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As a manufacturer of wheelchairs, Invacare endeavors to supply a wide variety of wheelchairs to meet many needs of the end user. However, final selection of the type of wheelchair to be used by an individual rests solely with the user and his/her healthcare professional capable of making such a selection.

#### **WHEELCHAIR TIE-DOWN RESTRAINTS AND SEAT POSITIONING STRAPS**

Invacare recommends that wheelchair users **NOT** be transported in vehicles of any kind while in wheelchairs. As of this date, the Department of Transportation has not approved any tie-down systems for transportation of a user while in a wheelchair, in a moving vehicle of any type.

It is Invacare's position that users of wheelchairs should be transferred into appropriate seating in vehicles for transportation and use be made of the restraints made available by the auto industry. Invacare cannot and does not recommend any wheelchair transportation systems.

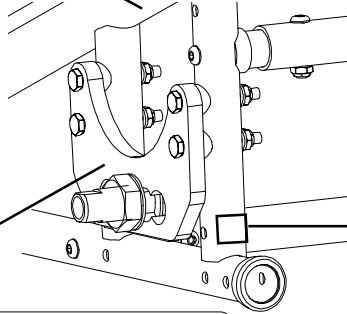
**AS REGARDS RESTRAINTS - SEAT /CHEST POSITIONING STRAPS - IT IS THE OBLIGATION OF THE DME DEALER, THERAPISTS AND OTHER HEALTHCARE PROFESSIONALS TO DETERMINE IF A SEAT/CHEST POSITIONING STRAP IS REQUIRED TO ENSURE THE SAFE OPERATION OF THIS EQUIPMENT BY THE USER. SERIOUS INJURY CAN OCCUR IN THE EVENT OF A FALL FROM A WHEELCHAIR.**

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# LABEL LOCATIONS

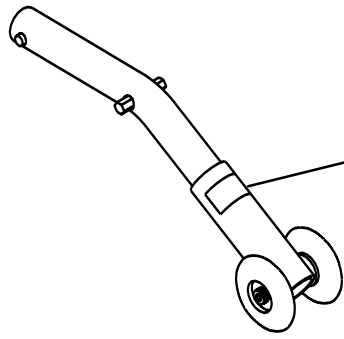
LABEL LOCATIONS

**▲ WARNING** Detent balls should extend beyond the diameter of the axle bushing for a positive lock. Keep detent balls clean.



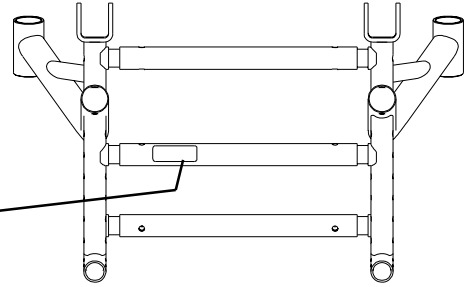
**▲ WARNING**  
DO NOT OPERATE WITHOUT  
THE ANTI-TIP TUBES  
REV. 5/98 INSTALLED. P/N 60106X144

**▲ WARNING** Refer to Owner's Manual BEFORE  
1085306 adjusting axle mounting plate.



**▲ WARNING**  
Refer to Owner's Manual  
for proper anti-tipper  
setting. 1085379

**WEIGHT CAPACITY**  
**150 LBS. (68 kgs.)**  
**REFER TO OWNER'S MANUAL**  
P/N 1111010



# SPECIFICATIONS

PHYSICAL DIMENSIONS	
INVACARE SOLARA JR.	
<b>Overall Width:</b>	Seat Width + 8-1/4-inches (Example: 16-inch Wide Wheelchair = 24-1/4-inches Overall Width)
<b>Overall Depth:</b> (W/O Front Riggings)	26-1/4-inches
<b>Overall Height:</b>	* Seat-to-Floor Height + 20-inches (20-inch back canes) * Seat-to-Floor Height + 24-inches (24-inch back canes)
<b>Anti-Tippers:</b>	Standard
<b>Footrest:</b>	Swing-Away Footrest - 90° ( <b>Standard</b> ) or 70°, Elevating Legrests, Bilateral Contracture Footrests
<b>Armrests:</b>	Dual Point Arms - Desk or Full Length, Adjustable or Fixed Height Cantilever Arms - Bolt or Clamp-on, Desk or Full Length T-Arms - Desk or Full Length, Adjustable Height
<b>Seat Pan:</b>	Black Steel - Flush Mounted ( <b>Standard</b> ), Drop Mounted ( <b>Optional</b> )
<b>Back:</b>	Adjustable Height Swivel Canes - 20 to 24-inches or 24 to 28-inches Fixed - 20 or 24-inches Reclining - 20 or 24-inches
<b>Back Angle Adjustment:</b>	90° to 120° (10° increments)
<b>Rear Axle:</b>	Quick-Release ( <b>Standard</b> )
<b>Rear Wheels:</b>	12-inches Pneumatic ( <b>Standard</b> ) 12-inch Pneumatic w/flat free ( <b>Optional</b> ) 16, 18, 20, 22 and 24-inch Pneumatic, Urethane or Pneumatic w/flat free ( <b>Optional</b> )
<b>Handrims:</b>	Aluminum Handrims (20, 22 and 24-inch)
<b>Caster Size:</b>	6 x 2-inch w/ Precision Sealed Bearings ( <b>Optional</b> ) 8-inch w/ Precision Sealed Bearings ( <b>Optional</b> ) 6 x 1-inch w/ Precision Sealed Bearings ( <b>Standard</b> )
<b>Seat Width:</b>	10 to 16-inches (Growable from 10 to 13-inches wide or from 13 to 16-inches wide)
<b>Seat Depth:</b>	12 to 18-inches
<b>Back Cane Height:</b>	20 and 24-inches
<b>Wheel Locks:</b>	12-inch Rear Wheels - Attendant Operated 16, 18, 20, 22, and 24-inch Rear Wheels - Pull to Lock
<b>Tilt-In-Space:</b>	Dual Cable Trigger Mechanism ( <b>Standard</b> ) - 50° of Tilt
<b>Recliner Back:</b>	Dual Cable Trigger Mechanism ( <b>Optional</b> ) 90 - 180° of Tilt
<b>Frame:</b>	Aluminum

\* NOTE: The seat-to-floor heights are based on pneumatic tires and pneumatic tires with flat free inserts. If wheelchair is equipped with urethane tires, subtract 1/4-inch from the measurements listed above. All heights are measured with properly inflated new tires. These heights can vary ±1/4-inch due to tire wear.

SPECIFICATIONS

*This Procedure Includes the Following:*

*Information For Healthcare Professionals/Assistants*

*Stability - All Models*

*Stability - All Models Except for Recliners*

*Stability - Recliner Option ONLY*

*Operating Information*

*Weight Training*

*Weight Limitation*

*Safety/Handling of Wheelchairs*

## **INFORMATION FOR HEALTHCARE PROFESSIONALS/ ASSISTANTS**

### **WARNING**

The Solara jr. wheelchair **MUST** be operated by a healthcare professional or assistant when in **ANY** tilt position.

### **ANTERIOR (FORWARD) TILT**

**DO NOT** operate the wheelchair when the seat frame is in the anterior (forward) tilt position (frame stops in the lower position and approximately 5° forward tilt). Serious bodily injury may occur to the patient and/or the assistant(s).

Anterior (forward) tilt is a feature of this wheelchair designed for the **USE OF A HEALTHCARE PROFESSIONAL or ASSISTANT ONLY**. Engagement of the anterior (forward) tilt must **NEVER** be performed by the wheelchair user. When anterior (forward) tilt is needed, it must **ALWAYS** be engaged by a **HEALTHCARE PROFESSIONAL or ASSISTANT**. Make sure the occupant of the wheelchair is properly positioned and always engage both wheel locks.



**STABILITY - ALL MODELS**

**STABILITY WARNING**

The back height, seat depth, back angle, seating system, tilt angle, seat height, size/ position of the rear wheels, size/position of the front casters, as well as the user condition directly relate to the stability of the wheelchair. Any change to one (I) or any combination of the eleven (II) may cause the wheelchair to decrease in stability. These adjustments **MUST** be performed by a qualified technician.

	Back Height	Seat Depth	Back Angle	Seating System	Tilt Angle	Caster Size	Caster Position	Wheel Size	Wheel Position	User Condition	Wheel Locks	Anti-Tippers	Locking Collar
<b>Back Height</b>	•	✓	✓	✓	✓	✓	✓	✓	✓	N/A	N/A	N/A	N/A
<b>Seat Depth</b>	✓	•	✓	✓	N/A	✓	✓	✓	✓	N/A	N/A	N/A	✓
<b>Back Angle</b>	✓	✓	•	✓	✓	✓	✓	✓	✓	N/A	N/A	N/A	✓
<b>Seating System</b>	✓	✓	✓	•	✓	✓	✓	✓	✓	✓	N/A	N/A	N/A
<b>Tilt Angle</b>	N/A	N/A	✓	N/A	•	N/A	N/A	N/A	N/A	N/A	N/A	N/A	✓
<b>Caster Size</b>	✓	N/A	✓	N/A	N/A	•	✓	✓	✓	N/A	✓	✓	✓
<b>Caster Position</b>	✓	N/A	✓	N/A	N/A	✓	•	✓	✓	N/A	✓	✓	✓
<b>Wheel Size</b>	✓	N/A	✓	N/A	N/A	✓	✓	•	✓	N/A	✓	✓	✓
<b>Wheel Position</b>	✓	N/A	✓	N/A	N/A	✓	✓	✓	•	N/A	✓	✓	✓
<b>User Condition</b>	✓	✓	✓	✓	✓	✓	✓	✓	✓	•	N/A	N/A	N/A
<b>Seat Height</b>	✓	N/A	✓	✓	✓	✓	✓	✓	✓	N/A	✓	✓	✓

*NOTE: When changes to the left hand column occur, follow across the chart and refer to the ✓ procedure to maintain the proper stability, safety and handling of the wheelchair.*

**ALWAYS** make sure that the wheelchair is stable **BEFORE** using the tilt-in-space.

**STABILITY - ALL MODELS EXCEPT RECLINERS**

**WARNING**

To maintain maximum stability, position the rear wheels in the most rearward position in the axle mounting plate. Moving the rear wheels to any of the other mounting positions causes the wheelchair to decrease in stability.

If moving the rear wheels to **ANY** forward position, ensure the wheelchair is stable **BEFORE** using.

**ALWAYS** ensure stability **BEFORE** using maximum amount of tilt-in-space or moving the rear wheels forward. **TEST** wheelchair **BEFORE** it is occupied by the end user to ensure safety.

**STABILITY - RECLINER MODELS ONLY****WARNING**

Before using **ANY** recline position of this wheelchair, make sure the rear wheels are in the **MOST REARWARD** position in the axle mounting plate to maintain the stability of the wheelchair. **DO NOT** change the handling/maneuverability of the wheelchair by moving the rear wheels to **ANY** of the forward positions. Moving the rear wheels to **ANY** of the forward positions **WILL** change the center of gravity of the wheelchair, making the wheelchair less stable.

**ALWAYS** make sure that the wheelchair is stable in the **FULL RECLINED** (back at 180°) position **AND** the **FULL UPRIGHT** (back at 90°) position **BEFORE** using the recliner option.

**BEFORE** using the recliner option, make sure the anti-tipper wheel assemblies are in the lowest adjustment hole (adjustment hole closest to the ground/floor).

**ALWAYS** engage both wheel locks while reclining or inclining (reverse recline) the wheelchair.

Both gas cylinders **MUST** be operational and adjusted properly **BEFORE** using the recliner. **DO NOT** operate the recliner option if only one (1) of the gas cylinders is operational or adjusted properly.

Make sure the occupant of the wheelchair is properly positioned in the wheelchair **BEFORE** reclining or inclining (reverse recline) to maintain maximum stability and safety.

When returning the occupant of the wheelchair to the full upright position, more body strength will be required for approximately the last twenty (20) degrees of incline (reverse recline). Make sure to use proper body mechanics (use your legs) or seek assistance to avoid injury.

**ALWAYS** return the back to the upright position before lifting the wheelchair.

**OPERATING INFORMATION****GENERAL WARNINGS**

Unless otherwise noted, all service and adjustments should be performed while the wheelchair is unoccupied.

To determine and establish your particular safety limits, practice bending, reaching and transferring activities in the presence of a qualified healthcare professional **BEFORE** attempting active use of the wheelchair.

**ALWAYS** wear your seat/chest positioning strap. Inasmuch as the **SEAT/CHEST POSITIONING STRAP** is an option on this wheelchair (You may order with or without the Seat/Chest Positioning Strap), Invacare strongly recommends ordering the Seat/Chest Positioning Strap as an additional safeguard for the wheelchair user.

**ALWAYS** check foam grips for looseness **BEFORE** using the wheelchair. If loose, contact a qualified technician for instructions.

The necessary back angle (90°, 100°, 110° or 120°) **MUST** be selected **BEFORE** repositioning the rear wheels forward.

**DO NOT** operate the tilt-in-space if the trigger release levers and cables are not properly adjusted to ensure that the tilt-in-space is locked in place when engaged.

**DO NOT TRAVERSE, CLIMB or GO DOWN** ramps or slopes **GREATER** than 9°.

**NEVER** leave the occupied wheelchair unattended at any time, especially on an incline.

**GENERAL WARNINGS (CONTINUED)**

**DO NOT** attempt to reach objects if you have to move forward in the seat.

**DO NOT** attempt to reach objects if you have to pick them up from the floor by reaching down between your knees.

**DO NOT** lean over the top of the back upholstery/seating system. This will change your center of gravity and may cause you to tip over.

**DO NOT** shift your weight or sitting position toward direction you are reaching as wheelchair may tip over.

**WHEEL LOCKS ARE NOT BRAKES. DO NOT** attempt to stop a moving wheelchair with the wheel locks.

**DO NOT** tip the wheelchair onto the rear wheels without assistance.

**DO NOT** use an escalator to move a wheelchair between floors. Serious bodily injury may occur.

Before attempting to transfer in or out of the wheelchair, every precaution should be taken to reduce the gap distance. Turn both casters parallel to the object you are transferring onto. When transferring to and from the wheelchair, **ALWAYS ENGAGE BOTH WHEEL LOCKS.**

**DO NOT** use wheelchair unless it has the proper tire pressure (p.s.i.). **DO NOT** overinflate the tires. Failure to follow these suggestions may cause the tire to explode and cause bodily harm. Recommended tire pressure is listed on the side wall of the tire.

**DO NOT** use **ANY** parts, accessories, or adapters other than those authorized by Invacare. Otherwise, the warranty is void.

**DO NOT** attempt to lift a wheelchair by lifting on any removable (detachable) parts. Lifting by means of any removable (detachable) parts of a wheelchair may result in injury to the user or damage to the wheelchair.

**DO NOT** use the spreader bar for lifting or transporting the wheelchair. **DO NOT** use the spreader bar as a weight bearing support.

**DO NOT** stand on the frame of the wheelchair.

Anti-tippers **MUST BE** attached at all times.

**DO NOT** use the footplates as a platform. When getting in or out of the wheelchair, make sure that the footplates are in the upward position.

**WEIGHT TRAINING****WARNING**

Invacare **DOES NOT** recommend the use of its wheelchairs as a weight training apparatus. Invacare wheelchairs have **NOT** been designed or tested as a seat for any kind of weight training. If occupant uses said wheelchair as a weight training apparatus, Invacare shall **NOT** be liable for bodily injury and the warranty is void.

**WEIGHT LIMITATION****WARNING**

The Invacare Solara jr. wheelchair has a weight limitation of 150 lbs. (68 kg.).

## SAFETY/HANDLING OF WHEELCHAIRS

“Safety and Handling” of the wheelchair requires the close attention of the wheelchair user as well as the assistant. This manual points out the most common procedures and techniques involved in the safe operation and maintenance of the wheelchair. It is important to practice and master these safe techniques until you are comfortable in maneuvering around the frequently encountered architectural barriers.

Use this information only as a “basic” guide. The techniques that are discussed on the following pages have been used successfully by many.

Individual wheelchair users often develop skills to deal with daily living activities that may differ from those described in this manual. Invacare recognizes and encourages each individual to try what works best for him/her in overcoming architectural obstacles that they may encounter, however ALL WARNINGS and CAUTIONS given in this manual MUST be followed. Techniques in this manual are a starting point for the new wheelchair user and assistant with “safety” as the most important consideration for all.

### STABILITY AND BALANCE

#### WARNING

**ALWAYS wear your seat/chest positioning strap. Inasmuch as the SEAT/CHEST POSITIONING STRAP is an option on this wheelchair (You may order with or without the Seat/Chest Positioning Strap), Invacare strongly recommends ordering the Seat/Chest Positioning Strap as an additional safeguard for the wheelchair user.**

**Anti-tippers MUST be attached at all times.**

To assure stability and proper operation of your wheelchair, you must at all times maintain proper balance. Your wheelchair has been designed to remain upright and stable during normal daily activities as long as you do not move beyond the center of gravity.

Virtually all activities which involve movement in the wheelchair have an effect on the center of gravity. Invacare recommends using seat/chest positioning straps for additional safety while involved in activities that shift your weight.

DO NOT lean forward out of the wheelchair any further than the length of the armrests. Make sure the casters are pointing in the forward position whenever you lean forward. This can be achieved by advancing the wheelchair and then reversing it in a straight line.

The Invacare Solara jr. wheelchair should be operated by an assistant when the wheelchair is in any tilted position.

### COPING WITH EVERYDAY OBSTACLES

Coping with the irritation of everyday obstacles can be alleviated somewhat by learning how to manage your wheelchair. Keep in mind your center of gravity to maintain stability and balance.

### A NOTE TO WHEELCHAIR ASSISTANTS

When assistance to the wheelchair user is required, remember to use good body mechanics. Keep your back straight and bend your knees whenever tipping the wheelchair or traversing curbs, or other impediments.

**WARNING**

**DO NOT** attempt to lift the wheelchair by any removable (detachable) parts. Lifting by means of any removable (detachable) parts of a wheelchair may result in injury to the user or damage to the wheelchair.

**DO NOT** use the spreader bar for lifting or transporting the wheelchair. **DO NOT** use the spreader bar as a weight bearing support .

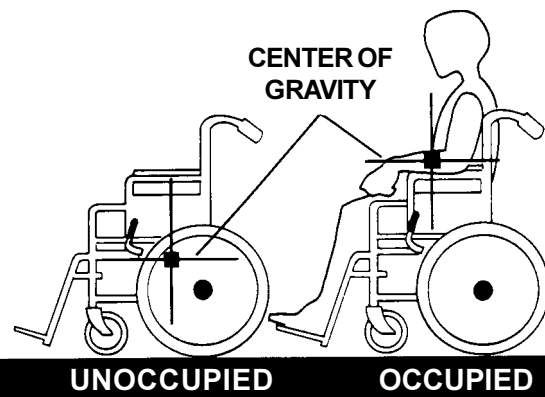
Also, be aware of detachable parts such as armrests or legrests. These must NEVER be used to move the wheelchair or as lifting supports, as they may be inadvertently released, resulting in possible injury to the user and/or assistant(s).

When learning a new assistance technique, have an experienced assistant help you before attempting it alone.

**PERCENTAGE OF WEIGHT DISTRIBUTION****WARNING**

**DO NOT** attempt to reach objects if you have to move forward in the seat or pick them up from the floor by reaching down between your knees.

The back height, seat depth, back angle, seating system, tilt angle, seat height, size/position of the rear wheels, size/position of the front casters, as well as the user condition directly relate to the stability of the wheelchair. Any change to one (I) or any combination of the eleven (II) may cause the wheelchair to decrease in stability. These adjustments **MUST** be performed by a qualified technician.



Many activities require the wheelchair owner to reach, bend and transfer in and out of the wheelchair. These movements will cause a change to the normal balance, the center of gravity, and the weight distribution of the wheelchair. To determine and establish your particular safety limits, practice bending, reaching and transferring activities in several combinations in the presence of a qualified healthcare professional BEFORE attempting active use of the wheelchair.

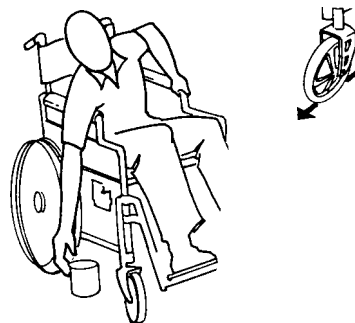
Proper positioning is essential for your safety. When reaching, leaning, or bending forward, it is important to use the front casters as a tool to maintain stability and balance.

**Reaching, Leaning and Bending - Forward.**

**WARNING**

**DO NOT** attempt to reach objects if you have to move forward in the seat or pick them up from the floor by reaching down between your knees.

Position the front casters so that they are extended as far forward as possible and engage wheel locks.



**Reaching, Leaning - Backwards.**

**WARNING**

**DO NOT** lean over the top of the back upholstery. This will change your center of gravity and may cause you to tip over.

Position wheelchair as close as possible to the desired object. Point front casters forward to create the longest possible wheelbase. Reach back only as far as your arm will extend without changing your sitting position.



**TIPPING**

**WARNING**

**DO NOT** tip the wheelchair without assistance.

When tipping the wheelchair, an assistant should grasp the back of the wheelchair on a non-removable (non-detachable) part. Inform the wheelchair occupant before tipping the wheelchair and remind him/her to lean back. Be sure the occupant's feet and hands are clear of all wheels and/or pinch points.

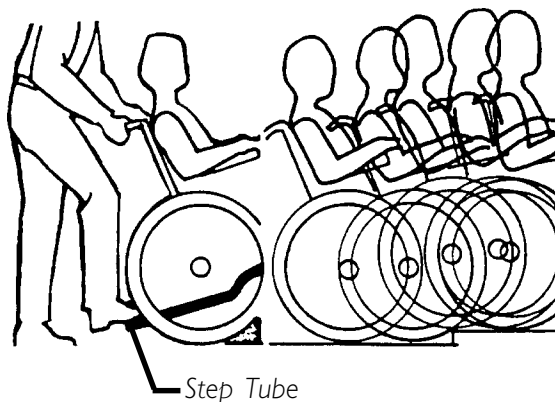
After mastering the techniques of tipping the wheelchair, use one (1) of the following methods to tackle curbs, short stairs, etc.

**TIPPING - CURBS: METHOD I - WHEELCHAIR WITH STEP TUBES:**

Place foot on the step tube and begin to tilt the wheelchair toward you. Apply a continuous downward motion until the balance point is achieved and the front casters clear the curb. At this point, the assistant will feel a difference in the weight distribution.

**WARNING**

**When lowering the front casters of the wheelchair, DO NOT** let the wheelchair drop the last few inches to the ground. This could result in injury to the occupant and/or damage to the wheelchair.



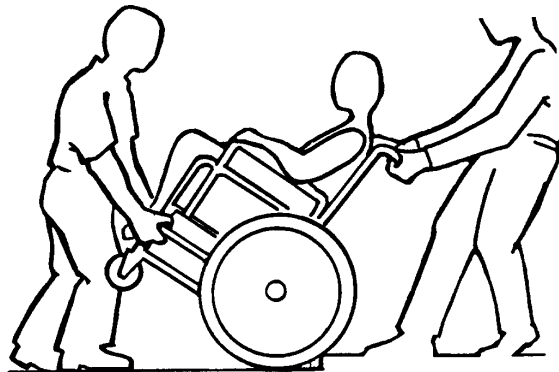
Step Tube  
**METHOD I - WHEELCHAIR WITH STEP TUBES**

Roll the wheelchair forward and slowly lower the front of the wheelchair in one continuous movement onto the sidewalk. Push the wheelchair forward until the rear wheels roll up and over the curb.

### **TIPPING - CURBS: METHOD 2 - WHEELCHAIR WITHOUT STEP TUBE**

This method requires two (2) assistants. The second assistant should be positioned at the front of the wheelchair lifting upward on a non-removable (non-detachable) part of the wheelchair frame when lifting the wheelchair and stabilizing the wheelchair when the wheelchair is being lowered to the ground.

The first assistant should stand on the sidewalk and turn the wheelchair so that the rear wheels are against the curb. Turn the anti-tippers so the anti-tip wheels are pointing up. The wheelchair should be tilted back to the balance point and, in one continuous upward movement, the rear wheels should be pulled up and over the curb. **DO NOT** return the front casters to the ground until the wheelchair has been pulled backward far enough for the front casters to clear the edge of the curb.



**METHOD 2 - WHEELCHAIR WITHOUT STEP TUBE**

### **WARNING**

**When lowering the front casters of the wheelchair, DO NOT let the wheelchair drop the last few inches to the ground. This could result in injury to the occupant and/or damage to the wheelchair.**

Roll the wheelchair backward and **SLOWLY** lower the wheelchair in one continuous movement.

## **STAIRWAYS**

### **WARNING**

**ALWAYS** wear your seat/chest positioning strap. Inasmuch as the **SEAT/CHEST POSITIONING STRAP** is an option on this wheelchair (You may order with or without the Seat/Chest Positioning Strap), Invacare strongly recommends ordering the **Seat/Chest Positioning Strap** as an additional safeguard for the wheelchair user.

**DO NOT** attempt to lift a wheelchair by lifting on any removable (detachable) parts. Lifting by means of any removable (detachable) parts of a wheelchair may result in injury to the user or damage to the wheelchair.

**DO NOT** use the spreader bar for lifting or transporting the wheelchair. **DO NOT** use the spreader bar as a weight bearing support .

Extreme caution is advised when it is necessary to move an occupied wheelchair up or down the stairs. Invacare recommends that, if possible, the user be removed from the wheelchair prior to moving. Invacare recommends using two (2) assistants and making thorough preparations. Make sure to use **ONLY** secure, non-detachable parts for hand-held supports.

**RECLINER OPTION ONLY - ALWAYS** return the back to the upright position before lifting the wheelchair.

Follow this procedure for moving the wheelchair between floors when an elevator is **NOT** available:

1. If necessary, rotate the anti-tippers so the wheels are facing up.
2. After the wheelchair has been tilted back to the balance point, one assistant (in the rear) backs the wheelchair up against the first step, while securely grasping a non-removable (non-detachable) part of the wheelchair for leverage.
3. The second assistant, with a firm hold on a non-detachable part of the framework, lifts the wheelchair up and over the stair and steadies the wheelchair as the first assistant places one (1) foot on the next stair and repeats STEP 1.
4. The wheelchair should not be lowered until the last stair has been negotiated and the wheelchair has been rolled away from the stairway.
5. If necessary, rotate the anti-tippers so the wheels are facing down.

### ESCALATORS? SORRY!

**DO NOT** use an escalator to move a wheelchair between floors. Serious bodily injury may occur.

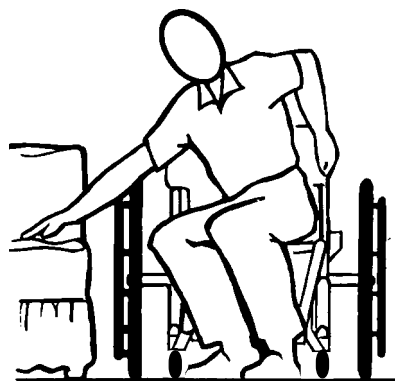
## TRANSFERRING TO AND FROM OTHER SEATS

### WARNING

**BEFORE** attempting to transfer in or out of the wheelchair, every precaution should be taken to reduce the gap distance. Turn both casters parallel to the object you are transferring onto. Also be certain the wheel locks are engaged to help prevent the wheels from moving.

### CAUTION

**When transferring, position yourself as far back as possible in the seat. This will help prevent broken screws, damaged upholstery and the possibility of the wheelchair tipping forward.**



*NOTE: This activity may be performed independently provided you have adequate mobility and upper body strength.*

Position the wheelchair as close as possible along side the seat to which you are transferring, with the front casters pointing parallel to it. Remove or flip up the armrest. Engage wheel locks. Shift body weight into seat with transfer.

During independent transfer, little or no seat platform will be beneath you. Use a transfer board if at all possible.



**This Procedure Includes the Following:**

**Safety Inspection Checklist**

**Troubleshooting**

**Maintenance**

## SAFETY INSPECTION CHECKLIST

*NOTE: Every six (6) months take your wheelchair to a qualified technician for a thorough inspection and servicing. Regular cleaning will reveal loose or worn parts and enhance the smooth operation of your wheelchair. To operate properly and safely, your wheelchair must be cared for just like any other vehicle. Routine maintenance will extend the life and efficiency of your wheelchair.*

Initial adjustments should be made to suit personal body structure and preference. Thereafter follow these maintenance procedures:

ITEM	Initially	Weekly	Monthly	Periodically
<b>GENERAL</b> Wheelchair rolls straight (no excessive drag or pull to one side).	X	X		
<b>CLOTHING GUARDS</b> Inspect for bent or protruding metal. Ensure all fasteners are secure.	X X			X X
<b>ARMS - PROCEDURE 5</b> Secure but easy to release.	X			X
<b>ARMREST - PROCEDURE 5</b> Inspect for rips in upholstery. Base sits flush against arm tube.	X X			X X
<b>TRIGGER RELEASE LEVER AND CABLE - PROCEDURE 9</b> Cables completely release and handles return when released.	X			X
<b>REAR WHEELS - PROCEDURE 7</b> Sealed bearings and axle nut tension correct. No excessive side movement/binding when lifted from ground and spun.	X X		X	X
<b>HANDRIMS</b> Inspect for signs of rough edges or peeling finish.	X			X
<b>FRONT CASTERS/FORKS - PROCEDURE 7</b> Inspect axle for proper tension by spinning caster; caster should come to a gradual stop. Adjust bearing system if wheel wobbles noticeably or binds to stop. Inspect fork and stem for damaged, loose or missing hardware. Inspect casters for cracks and wear <b>CAUTION: As with any vehicle, the wheels, casters and tires should be checked periodically for cracks and wear, and should be replaced.</b>	X X X	X	X	X X
<b>TIRES - PROCEDURE 7</b> Inspect for flat spots and wear. If pneumatic tires, check for proper inflation. Inspect rear tires for cracks and wear <b>CAUTION: As with any vehicle, the wheels, casters and tires should be checked periodically for cracks and wear, and should be replaced.</b>	X X X	X	X	X
<b>WHEEL LOCKS - PROCEDURE 8</b> Wheel locks do not interfere with tires when rolling. Wheel locks easy to engage. Pivot points free of wear or looseness.	X X X		X X X	
<b>CLEANING</b> Clean and wax all parts. Clean upholstery and armrests. Inspect axles are free from dirt, lint, etc. Inspect tilt slides and roller bearings are free from dirt, lint, etc.			X X	X X

**TROUBLESHOOTING**

Chair Veers Right	Chair Veers Left	Sluggish Turn or Performance	Caster Flutter	Squeaks and Rattles	Looseness in Chair	SOLUTIONS
X	X	X				Check tires for correct and equal pressure.
		X	X	X	X	Check for loose nuts and bolts.
X	X		X			Check that both casters contact the ground at the same time.

**MAINTENANCE**

**MAINTENANCE SAFETY PRECAUTIONS**

**WARNING**

After **ANY** adjustments, repair or service and **BEFORE** use, make sure all attaching hardware is tightened securely - otherwise injury or damage may result.

**CAUTION**

**DO NOT** over tighten hardware attaching to the frame. This could cause damage to the frame tubing.

**SUGGESTED MAINTENANCE PROCEDURES**

1. Keep quick-release axles free of dirt and lint to ensure positive locking and proper operation. Refer to ADJUSTING THE QUICK-RELEASE AXLE in PROCEDURE 7 of this manual.

**WARNING**

**DO NOT** use WD-40®, 3-in-1 oil®, or other penetrating lubricants on quick-release axles. Otherwise, binding and/or damage to the wheelchair may occur.

2. Clean quick-release axles once (1) a week with a Teflon® lubricant.

**WARNING**

**DO NOT** use the wheelchair unless it has the proper tire pressure (p.s.i.). **DO NOT** overinflate the tires. Failure to follow these suggestions may cause the tire to explode and cause bodily harm.

3. If tires are pneumatic, recommended tire pressures will be listed on the side wall of the tires.
4. Periodically adjust wheel locks in correlation to tire wear. Refer to WHEEL LOCK ADJUSTMENT in PROCEDURE 8 of this manual.
5. Make sure that ALL bolts are tight before operating wheelchair.

**CAUTION**

**As with any vehicle, the wheels, casters and tires should be checked periodically for cracks and wear, and should be replaced.**

6. The wheels and tires should be checked periodically for cracks and wear, and should be replaced.
7. Keep tilt slides and roller bearings free of dirt and lint to ensure proper operation of the tilt mechanism.

<i>This Procedure Includes the Following:</i>
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<i>Transporting the Invacare Solara jr.</i>
---

## **TRANSPORTING THE INVACARE SOLARA JR.**

1. Remove the seating system. Refer to the seating system Owner's Manual for installation and removal of the seating system.
2. Remove the footrests (PROCEDURE 4).
3. Remove the rear wheels (PROCEDURE 7).
4. Remove the armrests (PROCEDURE 5).
5. Remove the stroller handle (if applicable) (PROCEDURE 6).
6. Fold the back towards the front of the wheelchair (PROCEDURE 6).
7. Remove the anti-tippers (PROCEDURE 8).

<p><b><i>This Procedure Includes the Following:</i></b></p> <p><b><i>Installing/Removing Swingaway Footrest</i></b></p> <p><b><i>Adjusting Swingaway Footrest Height</i></b></p> <p><b><i>Adjusting Adjustable Angle Flip-up Footplates</i></b></p> <p><b><i>Composite/Articulating Footplate Heel Loop Replacement</i></b></p> <p><b><i>Installing/Removing Elevating Legrest/Calfpad Assembly</i></b></p> <p><b><i>Adjusting the Elevating Legrest/Calfpad Assembly</i></b></p>
---

**WARNING**

After ANY adjustments, repair or service and BEFORE use, make sure all attaching hardware is tightened securely - otherwise injury or damage may occur.

**INSTALLING/REMOVING SWINGAWAY FOOTREST (FIGURE 1)**

**INSTALLING**

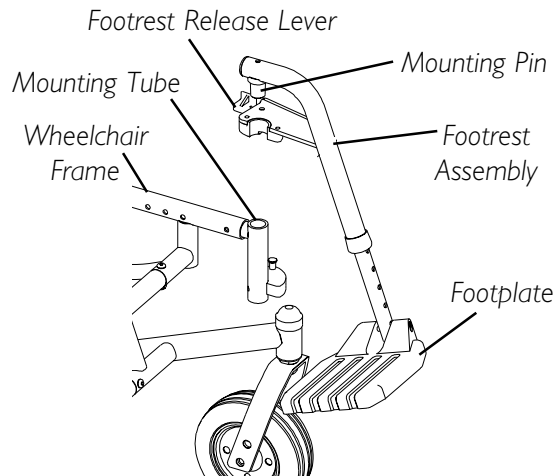
1. Turn the footrest to the side (open footplate is perpendicular to the wheelchair).
2. Insert the footrest assembly mounting pin into the mounting tube of the wheelchair frame.
3. Rotate the footrest towards the inside of the wheelchair until it locks into place.

*NOTE: The footplate will be on the inside of the wheelchair when locked in place.*

4. Repeat STEPS 1-3 for the other footrest assembly.
5. If necessary, adjust the footrest height. Refer to ADJUSTING SWINGAWAY FOOTREST HEIGHT in this procedure of the manual.

**REMOVING**

1. Push the footrest release lever inward while rotating the footrest outward.
2. Lift the footrest assembly out of the mounting pin of the wheelchair frame.
3. Repeat STEPS 1-2 for opposite side, if necessary.



*NOTE: Only 60° Front Rigging shown for clarity. Others will attach the same way.*

**FIGURE 1 - INSTALLING/REMOVING SWINGAWAY FOOTREST**

## ADJUSTING SWINGAWAY FOOTREST HEIGHT

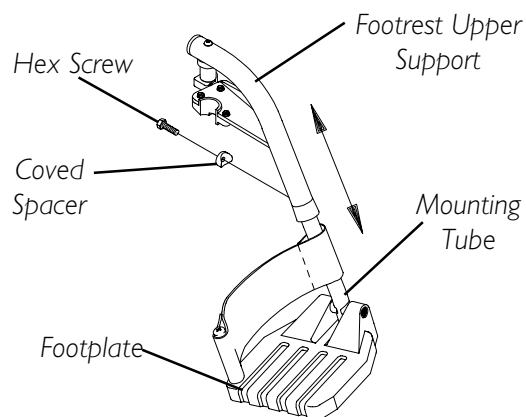
### HEIGHT ADJUSTMENT RANGES:

60°	13-17-inches
70°	13-17-inches
90°	5-8-inches
90°	5-11-inches (with 3-inch extension)

*NOTE: If using ANY type of extension with the ADJUSTABLE FLIP-UP FOOTPLATE, refer to ADJUSTING ADJUSTABLE ANGLE FLIP-UP FOOTPLATES - PERPENDICULAR AND/OR INVERSION/EVERSION ADJUSTMENT in this procedure of the manual.*

### 60°, 70° and 70° TAPER (FIGURE 2)

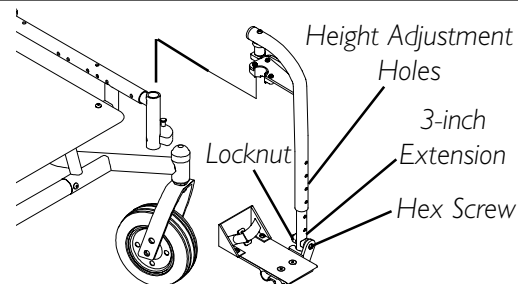
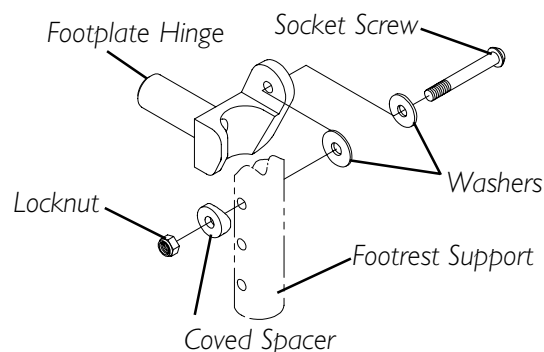
1. Remove the footrest from the wheelchair. Refer to INSTALLING/REMOVING SWINGAWAY FOOTREST in this procedure of the manual.
2. Remove the hex screw and covered spacer and slide the footrest up or down on its mounting tube until the desired footrest height is achieved.
3. Reassemble the hex screw and covered spacer through the footrest upper support and mounting tube as shown in FIGURE 2.
4. Securely tighten the hex screw and covered spacer.
5. Install the footrest assembly onto the wheelchair. Refer to INSTALLING/REMOVING SWINGAWAY FOOTREST in this procedure of the manual.
6. Repeat STEPS 1-5 for the opposite side of the wheelchair, if necessary.



**FIGURE 2 - ADJUSTING SWINGAWAY FOOTREST HEIGHT - 60° , 70° AND 70° TAPER**

### 90° AND 70° MFX (FIGURE 3)

1. Remove the footrest from the wheelchair. Refer to INSTALLING/REMOVING SWINGAWAY FOOTREST in this procedure of the manual.
2. Remove the socket screw, washers, covered spacer and locknut that secures the footplate hinge to the footrest support.
3. Slide the footrest support to the desired position.
4. Secure the footrest support to the footplate hinge. Refer to FIGURE 3 for correct hardware orientation.
5. Securely tighten the socket screw, washers, covered spacer and locknut.
6. Install the footrest assembly onto the wheelchair. Refer to INSTALLING/REMOVING SWINGAWAY FOOTREST in this procedure of the manual.
7. Repeat STEPS 1-6 for the opposite side of the wheelchair, if necessary.



**FIGURE 3 - ADJUSTING SWINGAWAY FOOTREST HEIGHT - 90° AND 70° MFX**

## ADJUSTING ADJUSTABLE ANGLE FLIP-UP FOOTPLATES (FIGURE 4)

### WARNING

When determining the angle of the footplates, make sure the rear of the footplates does not interfere with the movement of the front casters.

### DEPTH ADJUSTMENT

NOTE: Observe the angle of the footplate for reinstallation.

1. Remove the two (2) flat screws, washers and locknuts that secure footplate to the footplate hinge.
2. Move the footplate to one (1) of four (4) mounting positions.

NOTE: If desired depth is still not obtained, rotate the half clamp on the footplate hinge 180°.

3. Retighten the two (2) flat screws, washers and locknuts.

NOTE: The settings for positioning the footplates on the half-clamps may vary for each footplate.

### ANGLE ADJUSTMENT

1. Loosen, but do not remove the two (2) flat screws and locknuts that secure the footplate to the footplate hinge as shown in FIGURE 4.
2. Position the footplate to the necessary angle to accommodate the user (DETAIL "A").
3. Retighten the two (2) flat screws and locknuts.

### PERPENDICULAR AND/OR INVERSION/EVERSION ADJUSTMENT

NOTE: It is not necessary to remove the footplate to perform this adjustment.

1. Insert a flathead screwdriver through the half clamp on the footplate.
2. Slowly turn the nylon adjustment screw in or out until the footplate is perpendicular to the footrest assembly or the desired inversion or eversion is obtained (DETAIL "B").

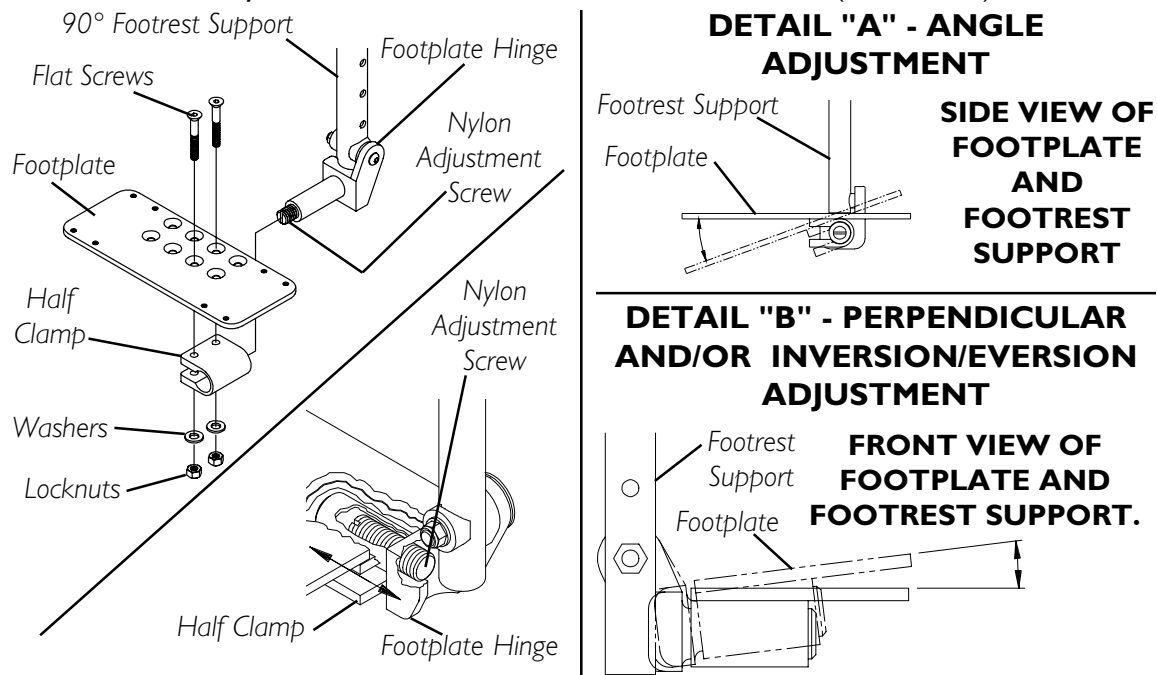


FIGURE 4 - ADJUSTING ADJUSTABLE ANGLE FLIP-UP FOOTPLATES

## COMPOSITE/ARTICULATING FOOTPLATE HEEL LOOP REPLACEMENT (FIGURE 5)

### DISASSEMBLY

#### Composite.

1. Remove the hex screw and covered spacer that secure the lower footrest assembly to the swing away footrest assembly.
2. Remove the lower footrest assembly.
3. Remove the phillips screw and locknut that secure the heel loop to the footrest.
4. Slide heel loop off of the footrest.

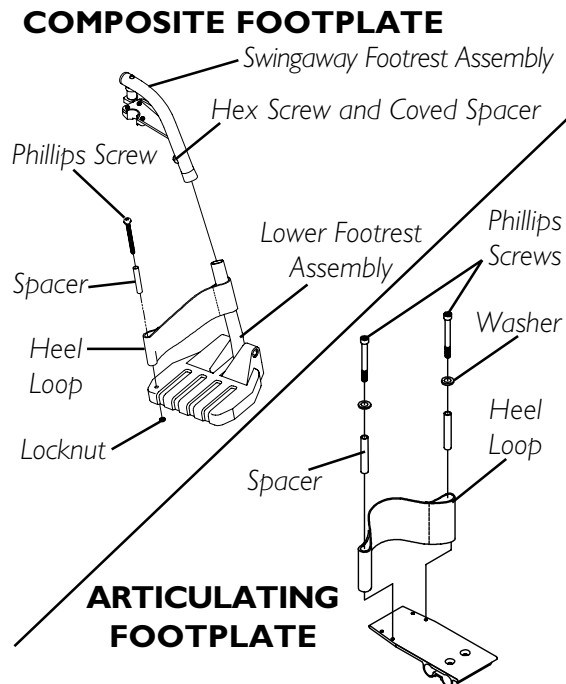
#### Articulating.

1. Remove the phillips screws, washers and spacers that secure the heel loop to the articulating footplate.

### REASSEMBLY

1. Replace heel loop.
2. Reverse the disassembly procedures.

*NOTE: When securing the heel loop to the footrest assembly, tighten phillips screw until the spacer is secure.*



**FIGURE 5 - COMPOSITE/  
ARTICULATING FOOTPLATE  
HEEL LOOP REPLACEMENT**

## INSTALLING/REMOVING ELEVATING LEGREST/CALFPAD ASSEMBLY (FIGURE 6)

### INSTALLING

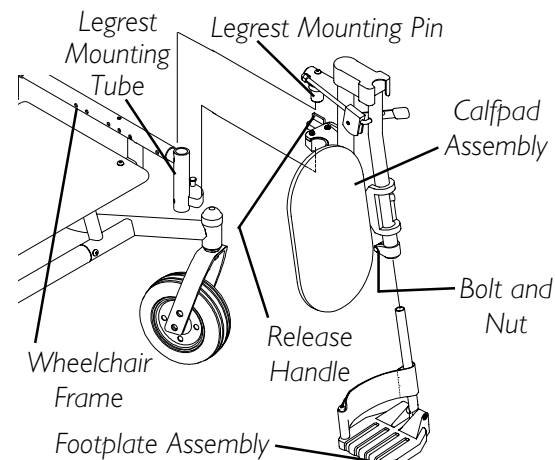
1. Insert the footplate assembly into the calfpad assembly and secure it with bolt and nut.
2. Place legrest/calfpad assembly on the outside of the wheelchair and insert legrest mounting pin into the legrest mounting tube on the wheelchair frame.
3. Rotate legrest/calfpad assembly toward the inside of the wheelchair until it locks in place.

*NOTE: The calfpad of the legrest will be on the inside of the wheelchair when locked in place.*

4. Repeat STEPS 1-3 for the other legrest assembly.
5. Adjust the footplate to the correct height by loosening the bolt and nut and sliding the inner tube up or down until desired height is achieved. Securely tighten bolt and nut.

### REMOVING

1. Push the legrest release handle inward while rotating the footrest outward.
2. Lift the legrest assembly out of the legrest mounting tube.



**FIGURE 6 - INSTALLING/  
REMOVING ELEVATING LEGREST/  
CALFPAD ASSEMBLY**

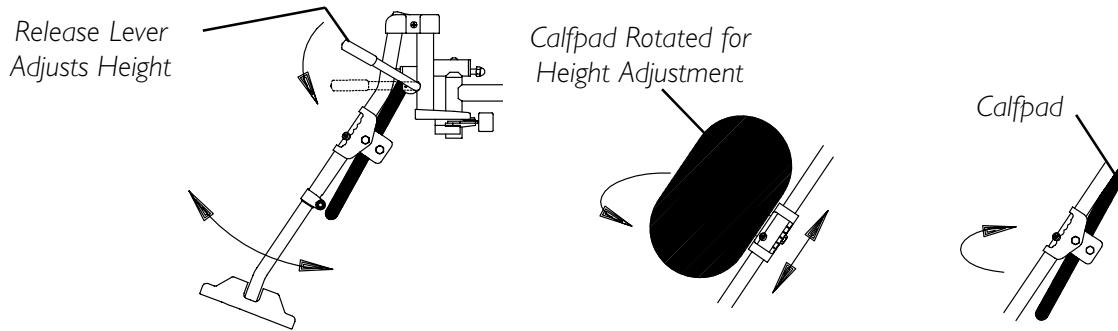
## ADJUSTING THE ELEVATING LEGREST/CALFPAD ASSEMBLY (FIGURE 7)

### ADJUSTING THE LEGREST

1. Raise legs until the desired height is obtained by lifting up on the footplate assembly.
2. To reposition legrest to normal position, support leg with one (1) hand and push release lever forward with other hand.

### ADJUSTING THE CALFPAD

1. Turn the calfpad towards the outside of the wheelchair.
2. Slide the calfpad up or down until the desired position is obtained.
3. To secure the calfpad, turn the calfpad towards the inside of the wheelchair.



**FIGURE 7 - ADJUSTING THE ELEVATING LEGREST/CALFPAD ASSEMBLY**



***This Procedure Includes the Following:***

***Using/Adjusting Dual Point Arms***  
***Replacing Dual Point Arm Pad***  
***Replacing Dual Point Arm Clothing Guards***  
***Using/Installing/Adjusting Cantilever Arms***  
***Arm Pad Replacement for Cantilever Arms***  
***Installing/Removing T-Arms***  
***Adjusting the T-Arms***  
***Adjusting T-Arm Transfer Assists and/or Side Guards***  
***Installing/Replacing Seat Positioning Straps***  
***Installing/Replacing Chest Positioning Straps***

**WARNING**

Never try to lift or tip the wheelchair by the arms, serious injury can occur.  
 After **ANY** adjustments, repair or service and **BEFORE** use, make sure all attaching hardware is tightened securely - otherwise injury or damage may occur.

**USING/ADJUSTING DUAL POINT ARMS (FIGURE 1)****WARNING**

Make sure the locking mechanism is secured before using the wheelchair.

**ADJUSTING ARMREST HEIGHT**

1. Unlock the armrest by flipping the height release lever on the top front of the armrest to the UP (HORIZONTAL) position.
2. Adjust armrest to desired height.

*NOTE: Armrest locks MUST be in the unlocked position when placing armrest into the arm assembly.*

3. Lock the armrest by pressing the release lever into the DOWN (VERTICAL) position when the desired armrest height is achieved.

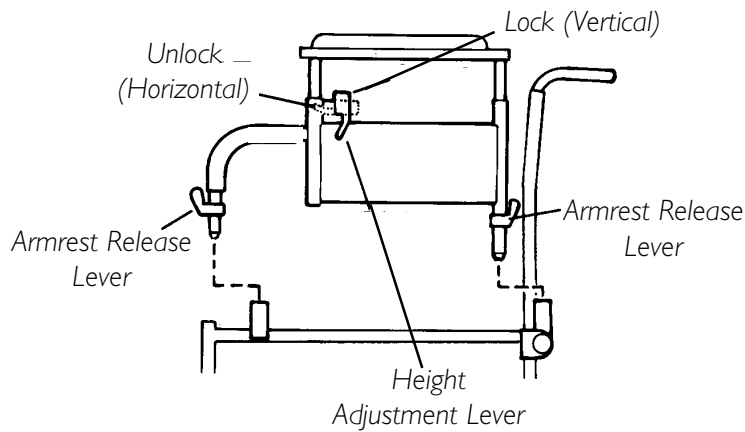
**REMOVING ARMRESTS**

1. Unlock the arm assembly by flipping the armrest release lever located on the side rail to the UP (HORIZONTAL) position.
2. Remove armrest from the wheelchair.

**REPLACING ARMRESTS**

*NOTE: Armrest release levers MUST be in the unlocked position when placing armrests into the arm sockets.*

1. Lock the armrest by pressing the armrest release lever into the DOWN (VERTICAL) position.



**FIGURE 1 - USING/ADJUSTING DUAL POINT ARMS**

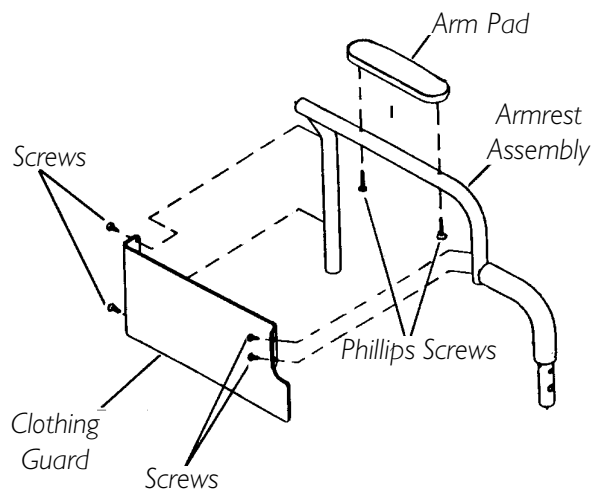
**REPLACING DUAL POINT ARM PAD (FIGURE 2)**

1. Remove the phillips screws that secure the arm pad to the armrest assembly.
2. Replace arm pad and securely tighten with the existing phillips screws.

**REPLACING DUAL POINT ARM CLOTHING GUARDS (FIGURE 2)**

*NOTE: This procedure is for fixed height arms ONLY.*

1. Remove the four (4) screws that secure the existing clothing guard to the armrest assembly.
2. Replace the existing clothing guard with the new clothing guard and securely tighten with the existing hardware.
3. Repeat STEPS 1-2 for the opposite side if necessary.



**FIGURE 2 - REPLACING DUAL POINT ARMREST PAD / REPLACING DUAL POINT ARM CLOTHING GUARDS**

## USING/INSTALLING/ADJUSTING CANTILEVER ARMS

*NOTE: The cantilever arms are designed for use with the fixed height back canes only.*

### USING (FIGURE 3)

1. Pull the actuator of the locking mechanism towards the front of the wheelchair.
2. While holding the actuator of the locking mechanism, pull up on the cantilever arm.

*NOTE: If necessary, the locking mechanism in the cantilever arm can be repositioned so the cantilever arm will open down instead of up. For this adjustment, contact a qualified technician.*

3. To lock the cantilever arm, push down until there is an audible click.
4. Pull up on the cantilever arm to make sure it is locked in place.

### INSTALLING/ADJUSTING

#### Installing Cantilever Arm (FIGURE 3).

*NOTE: When removing the locknuts and washers from the cantilever arm assembly, leave the top hex bolt, coved washers and spacer (between adjustment plate and cantilever arm) in place.*

1. Slide the partially assembled cantilever arm assembly w/mounting hardware through the back cane. Make sure the adjustment plate is towards the inside of the wheelchair.

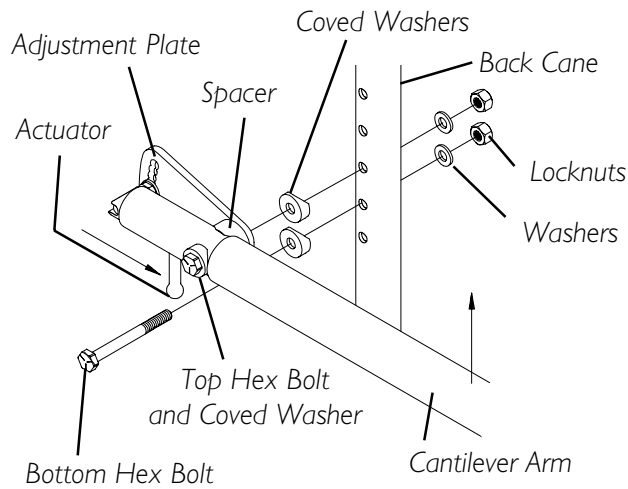
*NOTE: This includes top hex bolt, coved washers and spacer (between adjustment plate and cantilever arm).*

2. Slide the bottom hex bolt (w/coved washer) through the adjustment plate and back cane.
3. Securely tighten the cantilever arm to the wheelchair with two (2) locknuts and washers.
4. Adjust the angle of the cantilever arm, if necessary. Refer to ADJUSTING CANTILEVER ARM ANGLE in this section of the manual.

#### Adjusting Cantilever Arm Height (FIGURE 3).

*NOTE: When removing the locknuts and washers from the cantilever arm assembly, leave the top hex bolt, coved washers and spacer (between adjustment plate and cantilever arm) in place.*

1. Remove the two (2) locknuts and washers securing the cantilever arm assembly to the back cane.
2. Remove the cantilever arm assembly with hardware from the back cane.
3. Perform STEPS 1-4 in INSTALLING CANTILEVER ARM to reposition the arm at the desired height.

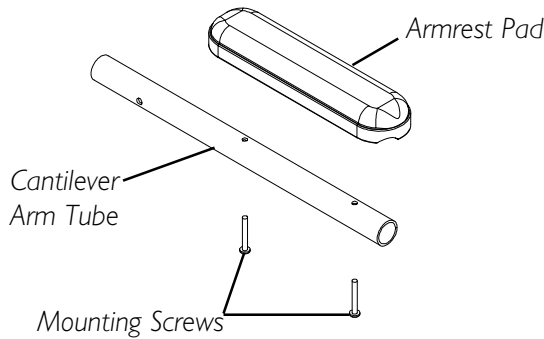


**FIGURE 3 - USING/INSTALLING/ADJUSTING CANTILEVER ARMS**

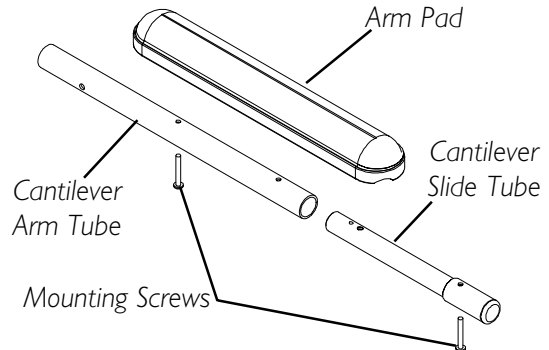
**ARM PAD REPLACEMENT FOR CANTILEVER ARMS (FIGURE 4)**

1. Remove the mounting screws from the armrest pad.
2. Replace with NEW armrest pad.
3. Secure with existing hardware.

**DESK LENGTH ARM PADS**



**FULL LENGTH ARM PADS**



**FIGURE 4 - ARM PAD REPLACEMENT FOR CANTILEVER ARMS**

## INSTALLING/REMOVING T-ARMS (FIGURE 5)

### INSTALLING T-ARMS

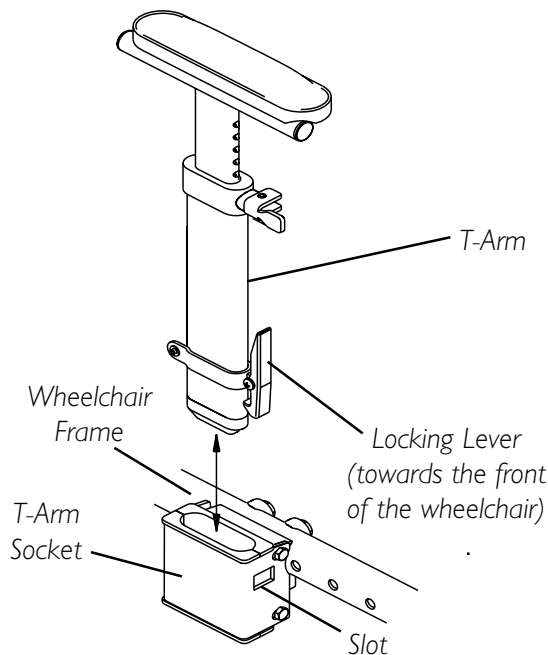
1. Position the T-arm over the T-arm socket on the wheelchair frame.

*NOTE: Make sure the locking lever is towards the front of the wheelchair.*

2. Slide T-arm into T-arm socket until the locking lever is in the slot in the T-arm socket and an audible "click" is heard.
3. Pull up on T-arm to make sure T-arm is locked in place.

*NOTE: If the T-arm does not slide in the T-arm socket as desired, adjust the T-arm socket. Refer to ADJUSTING THE T-ARMS in this procedure of the manual.*

4. Adjust the T-arm for desired height, width and depth, if necessary. Refer to ADJUSTING THE T-ARMS in this procedure of the manual.
5. Repeat STEPS 1-4 for opposite side of wheelchair.



**FIGURE 5 - INSTALLING/  
REMOVING T- ARMS**

### REMOVING T-ARMS

1. Press in on the locking lever and lift the T-arm straight up and out of the T-arm socket.

*NOTE: If the T-arm does not slide up and down in the T-arm socket as desired, adjust the T-arm socket. Refer to ADJUSTING THE T-ARMS in this procedure of the manual.*

2. Repeat STEP 2 for opposite side of the wheelchair.

## ADJUSTING THE T-ARMS

### ADJUSTING T-ARM HEIGHT (FIGURE 6)

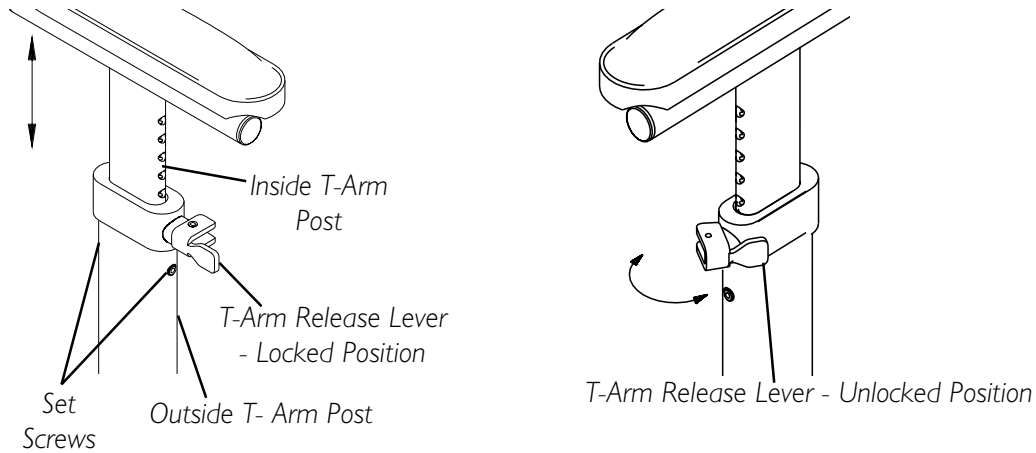
1. Unlock the T-arm by flipping the T-arm release lever towards the inside of the wheelchair.

*NOTE: If necessary, pull out on the T-arm release lever and rotate 180° so it can be flipped towards the outside of the wheelchair.*

2. Slide the T-arm to one (1) of:
  - A. **Low Height T-Arms** - Nine (9) positions.
  - B. **High Height T-Arms** - Seven (7) positions.

*NOTE: If the inside T-arm post does not slide up and down in the outside T-arm post as desired, perform one (1) of the following:*

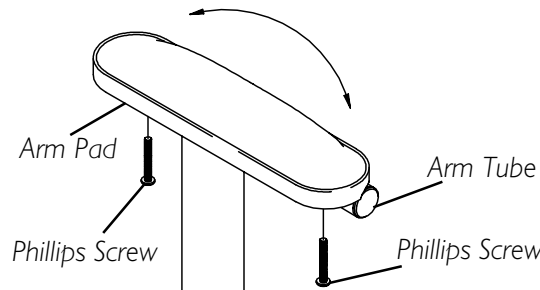
- A. **Tighten** - Tightening the set screws on the outside T-arm post **will make it more difficult** to move the inside T-arm post up and down.
  - B. **Loosen** - Loosening the set screws on the outside T-arm post **will make it easier** to move the inside T-arm post up and down.
3. Lock the T-arm by flipping the T-arm release lever towards the front of the wheelchair.



**FIGURE 6 - ADJUSTING T-ARM HEIGHT**

**ADJUSTING T-ARM WIDTH (FIGURE 7)**

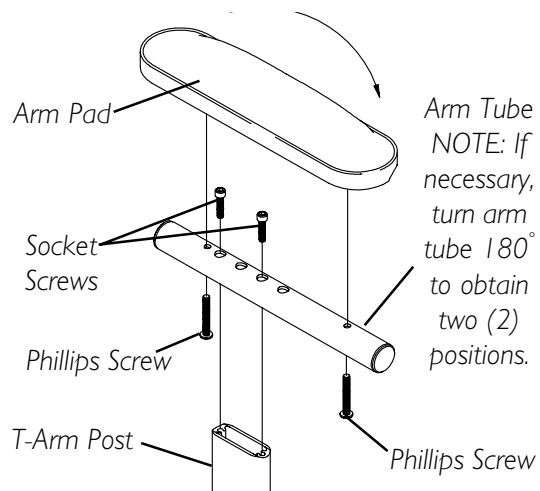
1. Remove the two (2) phillips screws that secure the arm pad to the arm tube.
2. Turn the arm pad around and reposition the arm pad on the arm tube.
3. Re-secure the arm pad to the arm tube with the two (2) phillips screws. Tighten securely.
4. Repeat for the opposite side, if necessary.



**FIGURE 7 - ADJUSTING T-ARM WIDTH**

**ADJUSTING T-ARM DEPTH (FIGURE 8)**

1. Remove the two (2) phillips screws that secure the arm pad to the arm tube.
2. Remove the two (2) socket screws that secure the arm tube to the T-arm post.
3. Reposition the arm tube on the T-arm post:
  - A. **Desk Length Arms** - to one (1) of three (3) positions depending on the desired arm pad depth.
  - B. **Full Length Arms** - to one (1) of five (5) positions depending on the desired arm pad depth.



**FIGURE 8 - ADJUSTING T-ARM DEPTH**

*NOTE: Additional positions are obtainable by turning the arm tube 180°.*

4. Re-secure the arm tube to the T-arm post with the two (2) socket screws. Torque to 60-70 in./lbs.
5. Reattach the arm pad to the arm tube with the two (2) phillips screws. Tighten securely.
6. Repeat for the opposite side, if necessary.

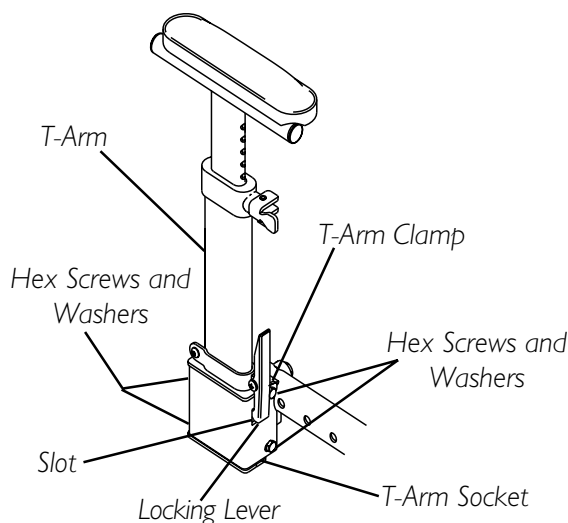
### ADJUSTING T-ARM SOCKETS (FIGURE 9)

*NOTE: Perform this procedure if the T-arm is too loose in the socket or does not easily slide up and down in the socket.*

1. Remove the rear wheels from the wheelchair, if necessary. Refer to REMOVING/INSTALLING REAR WHEELS in PROCEDURE 7 of this manual.
2. Loosen, but do not remove the four (4) hex screws and washers that secure T-arm socket to T-arm clamp.

*NOTE: The T-arm socket will disassemble if the four (4) hex screws and washers are removed.*

3. Slide the T-arm into the T-arm socket until the locking lever is in the slot in the T-arm socket and an audible "click" is heard.
4. Squeeze the T-arm socket the T-arm clamp together until the socket is flush with the T-arm.
5. While holding the T-arm socket and the T-arm clamp together, tighten the four (4) hex screws and washers. Tighten securely.
6. Press in on the locking lever and lift the T-arm straight up and out of the T-arm socket.
7. Repeat STEPS 3-6, if necessary until the T-arm slides in the T-arm socket as desired.
8. If necessary, install rear wheels. Refer to REMOVING/INSTALLING REAR WHEELS in PROCEDURE 7 of this manual.



**FIGURE 9 - ADJUSTING T-ARM SOCKETS**

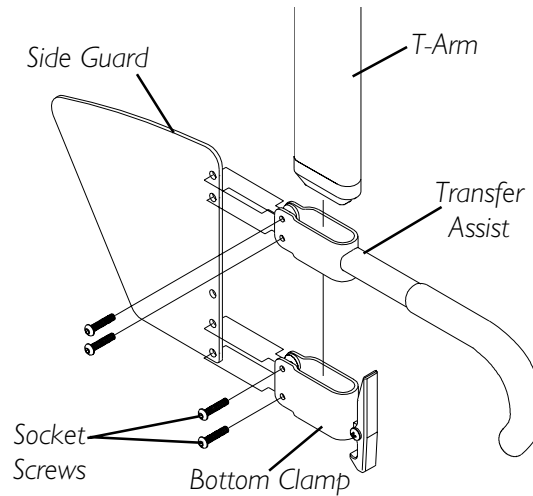
### ADJUSTING T-ARM TRANSFER ASSISTS AND/OR SIDE GUARDS (FIGURE 10)

1. Remove the T-arm from the wheelchair. Refer to INSTALLING/REMOVING T-ARMS in this procedure of the manual.
2. Remove the two (2) socket screws that secure the side guard to the bottom clamp.

*NOTE: Adjusting the side guards will directly affect the position of the transfer assist.*

3. Perform one (1) of the following:
  - Small Side Guards - Move the bottom clamp up one (1) of two (2) mounting positions in the side guard.
  - Large Side Guards - Move the bottom clamp up one (1) of three (3) mounting positions in the side guard.

4. Re-secure the side guard to the bottom clamp with the two (2) socket screws.
5. Install the T-arm onto the wheelchair. Refer to **INSTALLING/REMOVING T-ARMS** in this procedure of the manual.



**FIGURE 10 - ADJUSTING T-ARM TRANSFER ASSISTS AND/OR SIDE GUARDS**

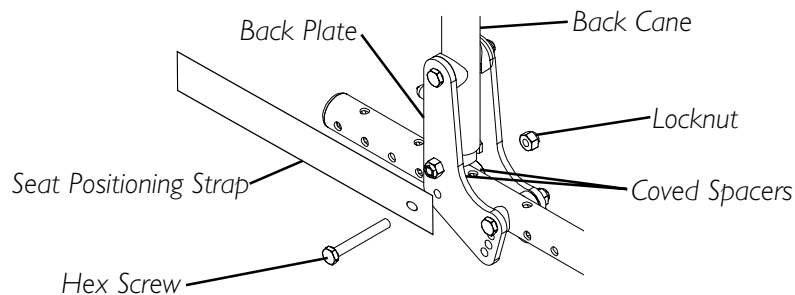
**INSTALLING/REPLACING SEAT POSITIONING STRAPS (FIGURE 11)**

**INSTALLING**

1. Remove the hex screw and locknut that secures the back cane to the back plate.
2. Position the seat positioning strap against the back plate.
3. Install the hex screw through the seat positioning strap, covered spacers and back cane.
4. Securely tighten the seat positioning strap to the wheelchair with the locknut.
5. Repeat STEPS 1-4 for opposite side.

**REPLACING**

1. Remove the hex screw, locknut and seat positioning strap from the back plate of the wheelchair frame.
2. Discard EXISTING seat positioning strap.
3. Install the NEW seat positioning strap to the wheelchair. Refer to **INSTALLING SEAT POSITIONING STRAPS** in this procedure of the manual.



**FIGURE 11 - INSTALLING/REPLACING SEAT POSITIONING STRAPS**



## INSTALLING/REPLACING CHEST POSITIONING STRAPS (FIGURE 12)

### INSTALLING

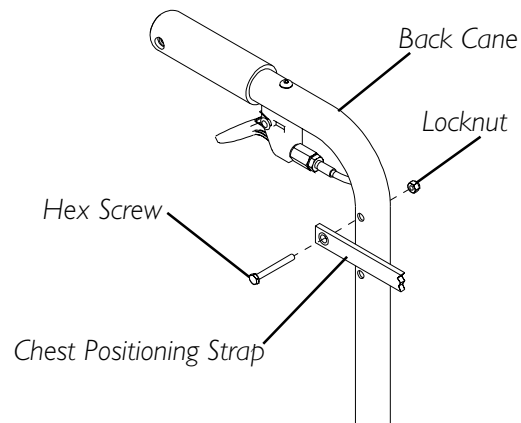
1. Position the chest positioning strap to one (1) of the holes on the back cane.

*NOTE: The standard recommended position for the chest positioning strap is in the top hole of the back cane, but may be mounted according to the user's needs.*

2. Secure the chest positioning strap to the back canes with the NEW/EXISTING hex screw and locknut as shown in FIGURE 9.
3. Repeat STEPS 1-2 for opposite side.

### REPLACING

1. Remove the hex screw that secures the chest positioning strap to the back cane.
2. Discard EXISTING chest positioning strap.
3. Repeat STEPS 1-2 for opposite side, if necessary.
4. Install the NEW chest positioning strap. Refer to INSTALLING CHEST POSITIONING STRAPS in this procedure of the manual.



**FIGURE 12 - INSTALLING/ REPLACING CHEST POSITIONING STRAP**

<p><b>This Procedure Includes the Following:</b></p> <p><i>Folding/Unfolding Back Assembly</i></p> <p><i>Installing/Removing Stroller Handles</i></p> <p><i>Installing/Removing/Adjusting the Adjustable Angle Stroller Handles</i></p> <p><i>Using the Telescoping Back Canes</i></p> <p><i>Installing/Replacing the Back Upholstery</i></p> <p><i>Installing/Removing a Seating System</i></p> <p><i>Removing/Installing the Spreader Bar</i></p> <p><i>Installing the Seat Cushion</i></p>
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**WARNING**

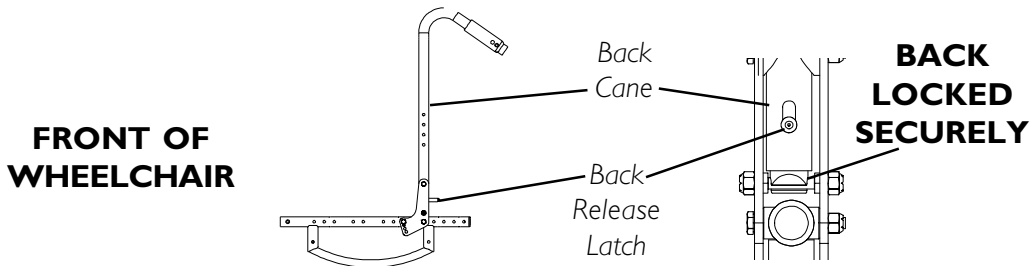
After ANY adjustments, repair or service and BEFORE use, make sure all attaching hardware is tightened securely - otherwise injury or damage may result.

**FOLDING/UNFOLDING BACK ASSEMBLY (FIGURE 1)**

**WARNING**

The back **MUST** be locked securely in place **BEFORE** using the wheelchair.

1. Do one (1) of the following:
  - A. **UNFOLD** - Push/pull the back towards rear of wheelchair until it locks in place.
  - B. **FOLD** - Pull up on the back release latches and push the back towards the front of the wheelchair.

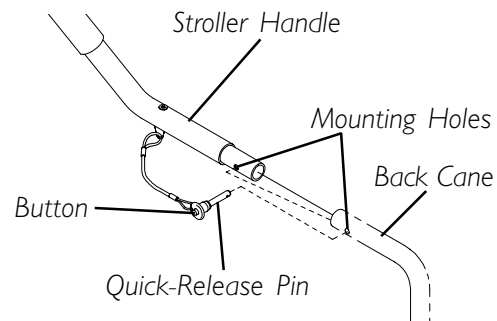


**FIGURE 1 - FOLDING/UNFOLDING BACK ASSEMBLY**

**INSTALLING/REMOVING STROLLER HANDLES (FIGURE 2)**

**INSTALLING**

1. Remove the plug buttons from both back canes, if necessary.
2. Slide the stroller handle into the back canes.
3. Align the mounting holes of the stroller handle and the back canes.
4. Press the button on the quick release pin and insert the quick release pin through the back cane and stroller handle.
5. Release the button on the quick release pin.
6. Pull on the stroller handle to make sure it is locked securely in place.



**FIGURE 2 - INSTALLING/REMOVING STROLLER HANDLES**

**REMOVING**

1. Push in the button of the quick release pins.
2. Pull out the quick release pins that secures the stroller handle to the back canes.
3. Remove the stroller handle from the wheelchair and discard.
4. Install the NEW stroller handle. Refer to INSTALLING STROLLER HANDLES in this procedure of the manual.

**INSTALLING/REMOVING/ADJUSTING THE ADJUSTABLE ANGLE STROLLER HANDLES**

*NOTE: Adjustable angle stroller handles are bolted onto recliners ONLY.*

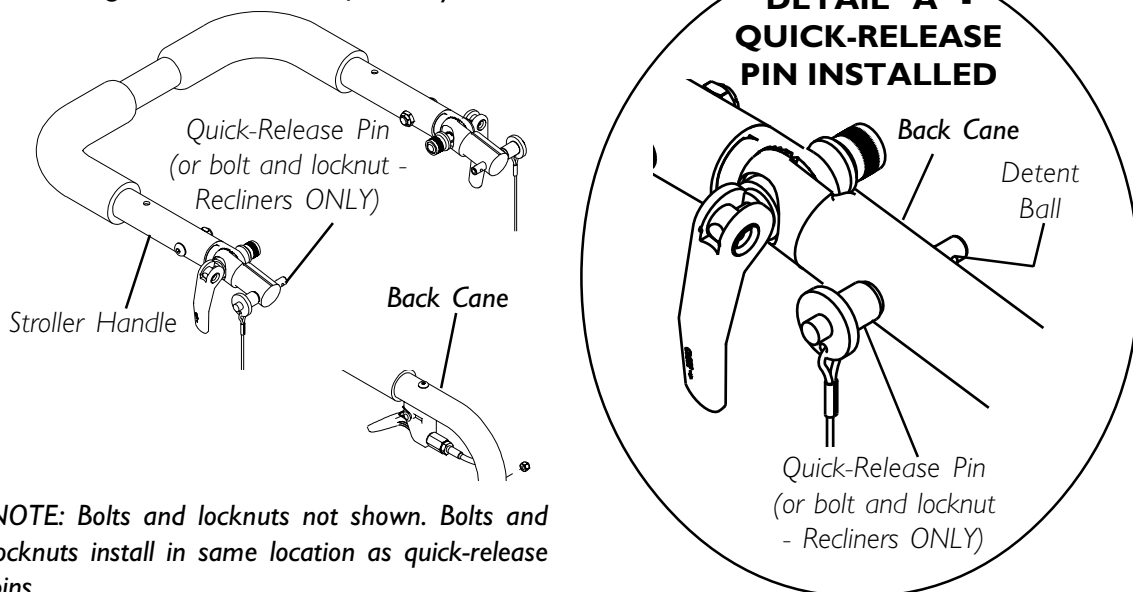
**INSTALLING (FIGURE 3)**

1. Remove plug buttons from both back canes.
2. Slide the adjustable height stroller handle into the back canes.
3. Align the mounting holes of the adjustable angle stroller handle and the back cane.
4. Secure adjustable angle stroller handle to the back canes with the two (2) quick-release pins or the two (2) bolts and locknuts.
5. If necessary, adjust the height. Refer to ADJUSTING in this procedure of the manual.

**REMOVING (FIGURE 3)**

1. Press and hold the buttons on the quick-release pins
2. Remove the adjustable angle stroller handle from the back cane.
3. Install plug buttons.

*NOTE: Plug buttons not shown for clarity.*



*NOTE: Bolts and locknuts not shown. Bolts and locknuts install in same location as quick-release pins.*

**FIGURE 3 - INSTALLING/REMOVING THE ADJUSTABLE ANGLE STROLLER HANDLES**

**ADJUSTING (FIGURE 4)**

1. Flip both release levers to the unlocked position.
2. Adjust stroller handle to desired angle.
3. Flip both release levers to the locked position.
4. Push down on stroller handle to ensure release levers hold the desired position of the stroller handle.
5. If release levers do not hold the position, tighten the release lever by performing the following:

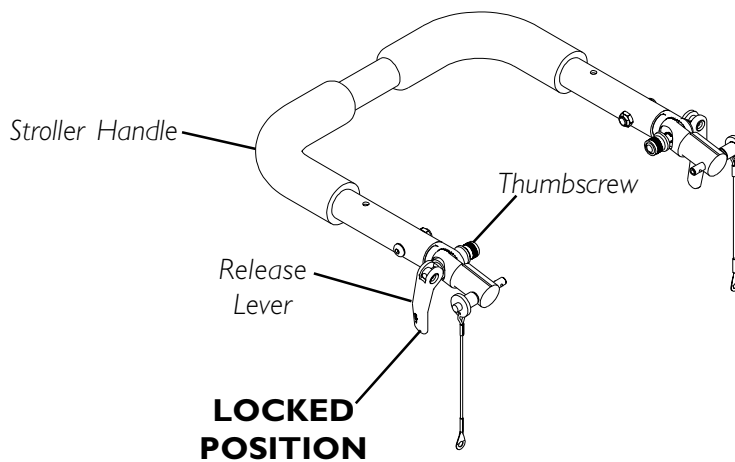
- A. Flip release lever to the unlocked position.
- B. Rotate thumbscrew **CLOCKWISE** one (1) revolution.

*NOTE: When tightening the release lever, the release lever must be able to close completely into the locked position. Otherwise, the release levers will not hold the desired angle.*

- C. Flip release levers to the locked position.

*NOTE: If the release levers do not close completely into the locked position, rotate the thumbscrew on each release lever **COUNTERCLOCKWISE** 1/2 revolution.*

- D. Repeat STEPS A-C for opposite release lever.
- E. Push down on stroller handle to ensure release levers hold the desired position of the stroller handle.
- F. Repeat STEPS A-E until release levers hold the position.



**FIGURE 4 - ADJUSTING THE ADJUSTABLE ANGLE STROLLER HANDLES**

## USING THE TELESCOPING BACK CANES (FIGURE 5)

### RAISING/LOWERING

1. Lift up the lever securing the telescoping back cane.
2. If back canes are completely lowered and handle is folded against the back, rotate the telescoping back cane until it stops.
3. Raise/lower the cane handle to the desired height.
4. Push down to close the lever and secure the telescoping back cane.
5. Push down on back cane to ensure levers hold the desired position of the back cane.
6. If levers do not hold the position, tighten the lever by performing the following:

- A. Flip lever to the unlocked position.
- B. Rotate thumbscrew **CLOCKWISE** one (1) revolution.

*NOTE: When tightening the lever, the lever must be able to close completely into the locked position. Otherwise, the levers will not hold the desired angle.*

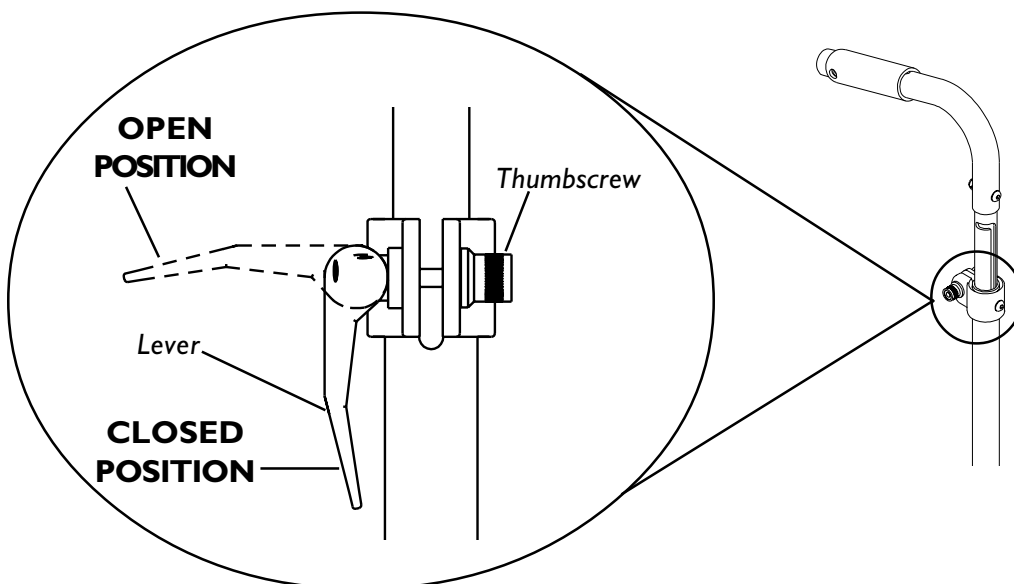
- C. Flip levers to the locked position.

*NOTE: If the levers do not close completely into the locked position, rotate the thumbscrew on each lever **COUNTERCLOCKWISE** 1/2 revolution.*

- D. Repeat STEPS A-C for opposite lever.
- E. Push down on back cane to ensure levers hold the desired position of the back cane.
- F. Repeat STEPS A-E until levers hold the desired position.

### STORING

1. Lift up the lever securing the telescoping back cane.
2. Lower the telescoping back cane.
3. Rotate the cane handle until folded against the back.
4. Push down to close the lever and secure the telescoping back cane.



**FIGURE 5 - USING THE TELESCOPING BACK CANES**

## INSTALLING/REPLACING THE BACK UPHOLSTERY

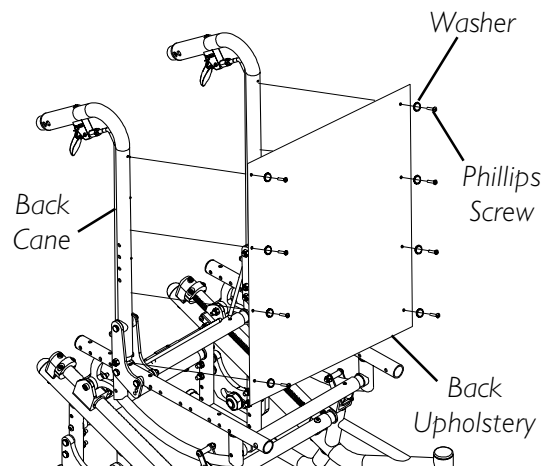
### FIXED BACK CANES (FIGURE 6)

#### Installing.

1. Position the back upholstery on the back cane as shown in FIGURE 6.
2. Starting with the top two (2) mounting holes secure the back upholstery to the back canes with the ten (8) phillips screws and washers.

#### Replacing.

1. Remove the ten (8) phillips screws and washers that secure the back upholstery to the back canes.
2. Remove existing back upholstery from back canes.
3. Install new back upholstery onto the back canes. Refer to INSTALLING in this procedure.



**FIGURE 6 - INSTALLING/  
REPLACING THE BACK  
UPHOLSTERY - FIXED BACK  
CANES**

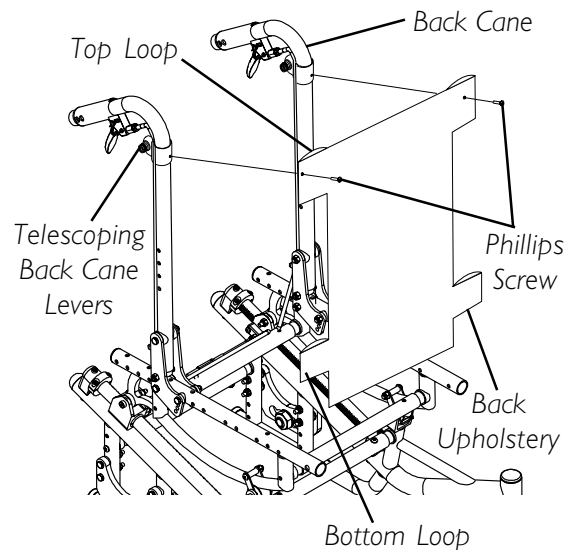
### TELESCOPING BACK CANES (FIGURE 7)

#### Installing.

1. Position the back upholstery with the screw holes UP.
2. Slide the bottom loops of the back upholstery over the back canes
3. Slide the top loops over the back canes.
4. Remove the two (2) mounting screws securing the telescoping back cane levers to the back cane.
5. Secure the top two (2) mounting holes of the back upholstery to the back canes with the two (2) mounting screws.

#### Replacing.

1. Remove the two (2) mounting screws that secure the back upholstery to the back canes.
2. Slide the existing back upholstery up and over the back canes.
3. Install new back upholstery onto the back canes. Refer to INSTALLING in this procedure.



**FIGURE 7 - INSTALLING/  
REPLACING THE BACK  
UPHOLSTERY - TELESCOPING  
BACK CANES**

## INSTALLING AND REMOVING A SEATING SYSTEM

### WARNING

**DO NOT** use parts, accessories, or adapters other than those authorized by Invacare. Otherwise, the warranty is void.

1. Ensure that the seating system is compatible with this wheelchair.
2. Refer to the seating system Owner's Manual for installation and removal.

## REMOVING/INSTALLING THE SPREADER BAR (FIGURE 8)

### REMOVING

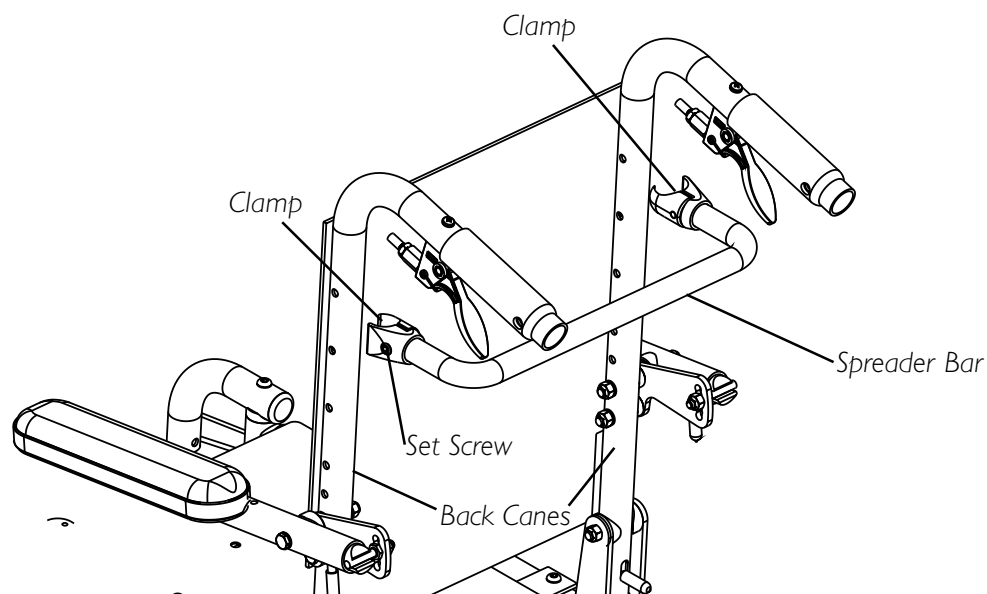
1. Loosen, but DO NOT remove the set screw on each spreader bar clamp.
2. Remove the spreader bar from the back canes.

### INSTALLING

1. If necessary, loosen, but do not remove the set screw on each spreader bar clamp.
2. Place the spreader bar clamps flush against the back canes.

*NOTE: When positioning the clamps flush against the back canes, ensure the spreader bar is parallel to the ground/floor.*

3. Tighten the set screw on each spreader bar clamp to secure the spreader bar to the back canes.



**FIGURE 8 - REMOVING/INSTALLING THE SPREADER BAR**

## INSTALLING THE SEAT CUSHION (FIGURE 8)

### WARNING

The seat cushion **IS NOT** designed for use in the treatment of pressure sores or by individuals at risk of developing pressure sores.

Your therapist and physician should be consulted if you have any questions regarding weight relief, self-examination of the skin, or individual limitations and needs.

Make sure the hook and loop fastening strips are securely attached between the seat pan and cushion before using.

### CAUTION

The cover is designed to protect the foam against a user's incontinence and to provide fire retardancy so the cushion must not be used without its cover. If the cover is torn, it must be replaced.

Machine wash cold. Gentle cycle. Mild detergent. **NO** fabric softeners or bleach. Tumble dry low or air dry. Warm or hot water or high dryer heat will reduce flame retardancy.

Wipe down surfaces with a slightly dampened cloth. **DO NOT** submerge cushion in water. If cushion foam becomes contaminated because of incontinence, it should be replaced because the foam is absorbent and cannot be cleaned.

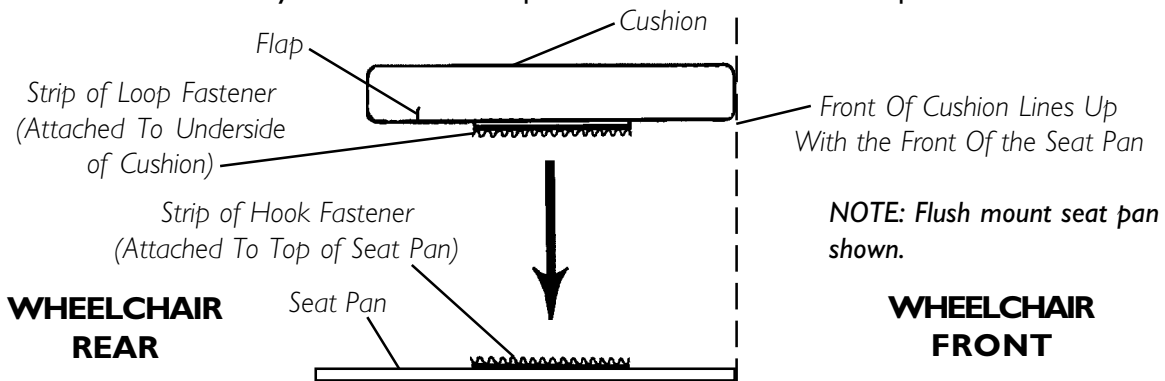
1. Perform one (1) of the following:
  - A. **FLUSH MOUNT SEAT PAN** - Position the cushion with the flap toward the REAR of the seat pan.
  - B. **DROP MOUNT SEAT PAN** - Position the cushion with the flap toward the FRONT of the seat pan.
2. Ensure the strips of loop fastener are on the underside of the cushion.
3. Align the front edge of the cushion with the front edge of the seat pan.

*NOTE: Ensure the cushion is centered on the seat pan. Otherwise the hook and loop fastening strips will not engage properly.*

### WARNING

Make sure the hook and loop fastening straps are securely attached between the seat pan and cushion before using.

4. Secure the cushion to the seat pan, making sure that the strips of loop fastener on the cushion are securely attached to the strips of hook fastener on the seat pan.



**FIGURE 8 - INSTALLING THE SEAT CUSHION**



**This Procedure Includes the Following:**

**Removing/Installing Rear Wheels**

**Adjusting the Quick-Release Axle**

**Seat-to-Floor Height Adjustment**

**Adjusting Forks**

### WARNING

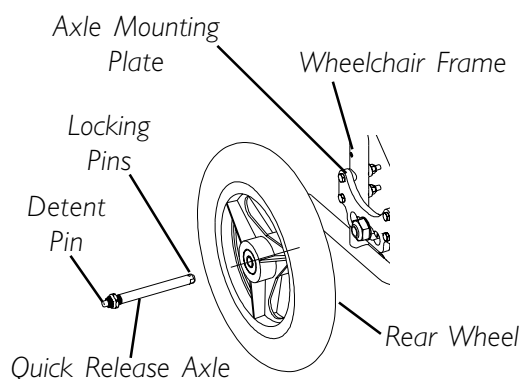
After **ANY** adjustments, repair or service and **BEFORE** use, make sure all attaching hardware is tightened securely - otherwise injury or damage may result.

## REMOVING/INSTALLING REAR WHEELS (FIGURE 1)

*NOTE: To remove rear wheels, reverse this procedure.*

*NOTE: If any adjustments (size or position) to the rear wheels have been made, the anti-tippers must be adjusted to maintain the 1-1/2 to 2-inch clearance. If this adjustment cannot be made with the anti-tippers currently installed, a different model may be required. Consult a qualified technician for assistance.*

1. Push in the detent pin of the quick release axle and insert the quick release axle through the center of the rear wheel.
2. Push in the tip of the quick-release axle again and insert the axle (with wheel) into the axle mounting plate on the side of the wheelchair frame until the assembly locks in place.



*NOTE: Only 12-inch rear wheel is shown. All other wheels will install/remove in the same manner.*

**FIGURE 1 - REMOVING/  
INSTALLING REAR WHEELS**

### WARNING

**Make sure detent pin and locking pins of the quick release axles are fully released BEFORE operating the wheelchair.**

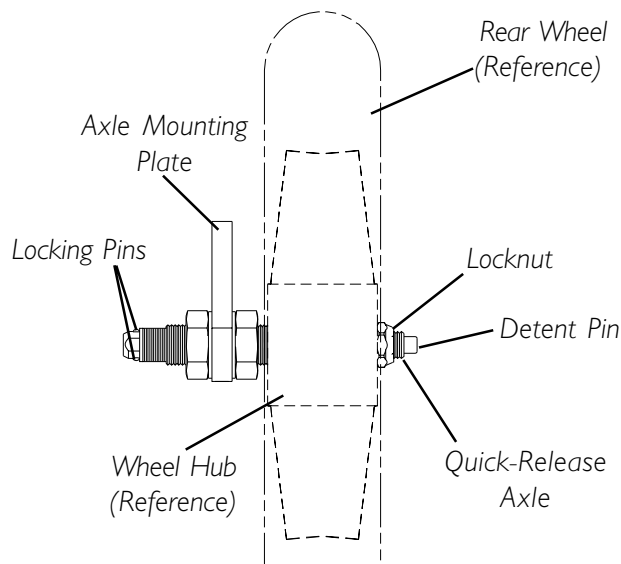
**The locking pins MUST be protruding past the inside of the axle mounting plate for a positive lock.**

**Keep locking pins clean.**

3. If the locking pins of the quick release axles are not protruding past the inside of the axle mounting plate or there is too much movement of the rear wheel assembly in a back and forth position, refer to **ADJUSTING THE QUICK RELEASE AXLE** in this procedure of the manual.
4. Repeat STEPS 1-3 for other rear wheel assembly.
5. Adjust the wheel locks. Refer to **WHEEL LOCK ADJUSTMENT** in PROCEDURE 8 of this manual.

## ADJUSTING THE QUICK RELEASE AXLE (FIGURE 2)

1. Remove rear wheel and quick release axle from the wheelchair. Refer to INSTALLING/REMOVING REAR WHEELS in this procedure of the manual.
2. Depress detent pin in the quick release axle and slide axle through the wheel hub.
3. Increase or decrease end play in the quick release axle by adjusting the locknut on the end of the quick release axle.
4. Reinstall rear wheel onto the wheelchair. Refer to INSTALLING/REMOVING REAR WHEELS in this procedure of the manual.
5. Release detent pin ensuring that the locking pins are fully released.
6. Repeat STEPS 3-5 until the quick release axle locks properly.
7. Repeat STEPS 1-6 for opposite side, if necessary.



**FIGURE 2 - ADJUSTING THE QUICK-RELEASE AXLE**

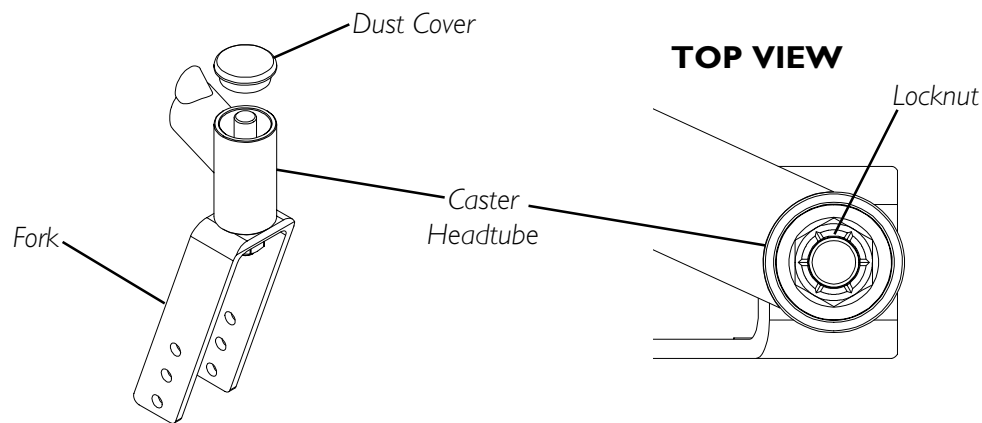
## SEAT-TO-FLOOR HEIGHT ADJUSTMENT

### WARNING

Repositioning the axle plates (seat-to-floor height) **MUST** be performed by a qualified technician.

**ADJUSTING FORKS (FIGURE 3)**

1. Remove the dust cover from the caster headtube.
2. To properly tighten caster journal system and guard against flutter, perform the following check:
  - A. Tip back the wheelchair to floor.
  - B. Pivot both forks and casters to top of their arc simultaneously.
  - C. Let casters drop to bottom of arc (wheels should swing once to one-side, then immediately rest in a straight downward position).
  - D. Adjust locknuts according to freedom of caster swing.
3. Test wheelchair for maneuverability.
4. Readjust locknuts if necessary, and repeat STEPS 1-3 until correct.
5. Snap dust cover into the caster headtube.
6. Repeat STEPS 1-5 for opposite side, if necessary.

**FIGURE 3 - ADJUSTING FORKS**

<b><i>This Procedure Includes the Following:</i></b>
<b><i>Adjusting Wheel Locks</i></b>
<b><i>Using the Wheel Locks</i></b>
<b><i>Installing/Adjusting Anti-Tippers</i></b>

**WARNING**

After **ANY** adjustments, repair or service and **BEFORE** use, make sure all attaching hardware is tightened securely - otherwise injury or damage may result.

**ADJUSTING WHEEL LOCKS (FIGURES 1 AND 2)**

*NOTE: When changing the position of the rear wheels, the wheel locks MUST be repositioned.*

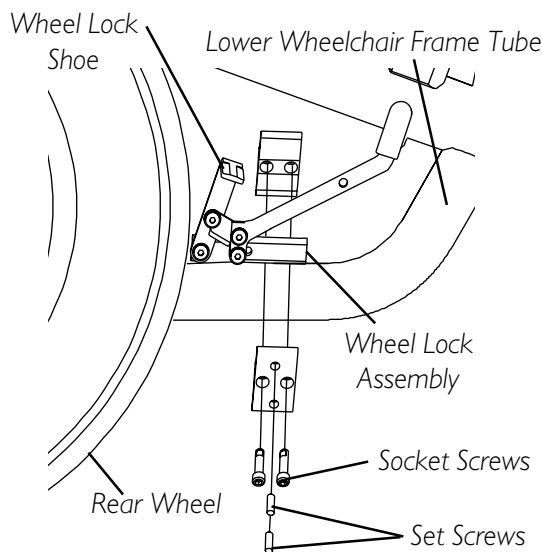
*NOTE: Before adjusting or replacing the wheel lock assemblies, ensure that the tires are inflated to the recommended p.s.i on the side wall of the tire.*

*NOTE: The foot activated wheel locks and the front wheel locks adjust in the same way.*

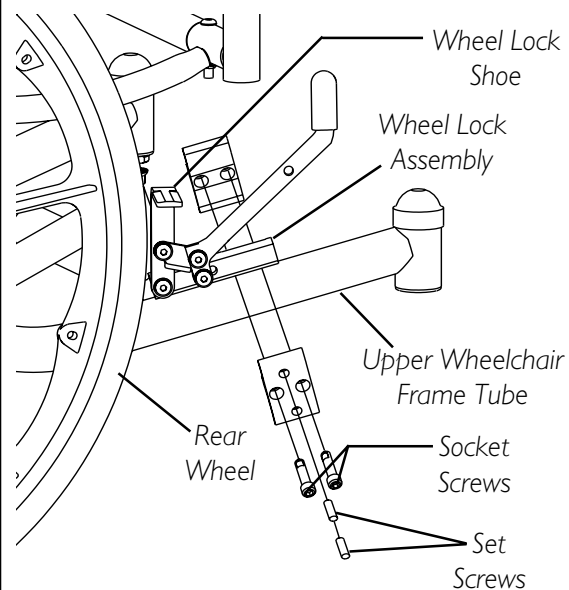
*NOTE: If wheel locks need replacement, installation must be performed by a qualified technician.*

1. Loosen, but do not remove the two (2) socket screws and set screws that secure the wheel lock assembly to the wheelchair frame.
2. Measure the distance between the **WHEEL LOCK SHOE** and the **REAR WHEEL**.
3. Slide the wheel lock along the wheelchair frame until the measurement is between 5/32 and 5/16-inches.
4. Securely tighten the two (2) socket screws and set screws.
5. Repeat STEPS 1-4 for the opposite wheel lock.
6. Engage the wheel locks and push against the wheelchair to determine if the wheel locks engage the rear wheels enough to hold the wheelchair.
7. Repeat STEPS 1-6 until the wheel locks engage the rear wheels enough to hold the wheelchair.

**12 AND 16-INCH REAR WHEELS**

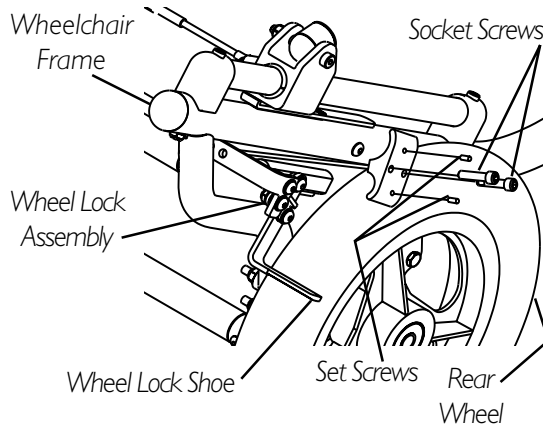


**18 - 24-INCH REAR WHEELS**



**FIGURE 1 - ADJUSTING WHEEL LOCKS - HAND ACTIVATED**

**FOOT ACTIVATED WHEEL LOCK (12-INCH WHEELS ONLY)**

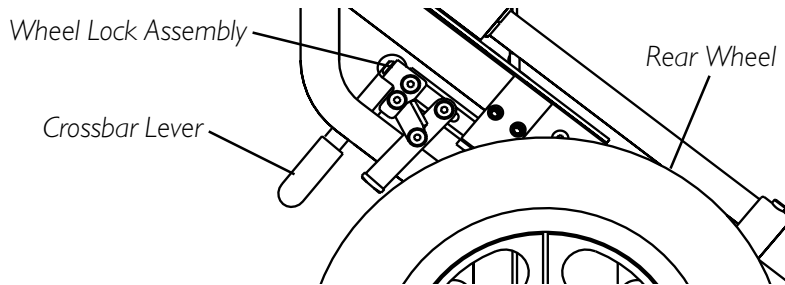


**FIGURE 2 - ADJUSTING WHEEL LOCKS - FOOT ACTIVATED**

**USING THE WHEEL LOCKS**

**FOOT ACTIVATED WHEEL LOCKS - 12-INCH WHEELS ONLY (FIGURE 3)**

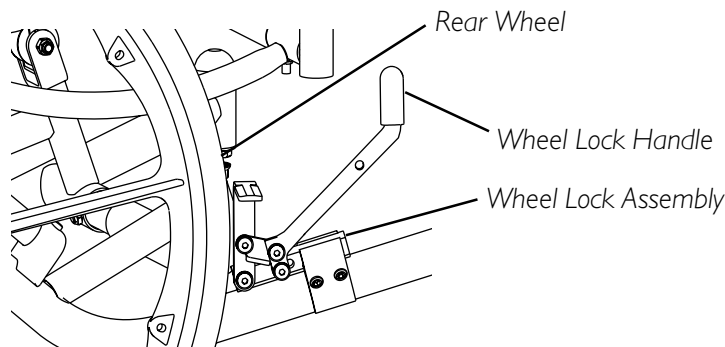
1. To engage both wheel locks, push DOWN on crossbar lever of wheel lock assembly.
2. To disengage, lift UP on crossbar lever.



**FIGURE 3 - FOOT ACTIVATED WHEEL LOCKS - 12-INCH WHEELS ONLY**

**FRONT WHEEL LOCKS (FIGURE 4)**

1. Push the wheel lock handle forward to engage the wheel locks.
2. Reverse STEP 1 to disengage the wheel locks.



**FIGURE 4 - FRONT WHEEL LOCKS**

## INSTALLING/ADJUSTING ANTI-TIPPERS (FIGURE 5)

*NOTE: A 1-1/2 to 2-inch clearance between the bottom of the anti-tipper wheels and the floor MUST be maintained at all times.*

*NOTE: If any adjustments/replacement of the rear wheels have been made, the anti-tippers must be adjusted to maintain the 1-1/2 to 2-inch clearance. If this adjustment cannot be made with the anti-tippers currently installed, a different model may be required. Consult a qualified technician for assistance.*

### INSTALLING

1. Remove the anti-tippers from the accessory carton.

#### WARNING

**Anti-tippers MUST be fully engaged and spring buttons fully protruding out of adjustment holes.**

2. Press the release buttons IN and install the anti-tippers with the wheels facing DOWN until the locking buttons lock in place as shown in FIGURE 5.

*NOTE: ALL anti-tippers will install with the wheels facing DOWN.*

3. Adjust the anti-tippers. Refer to [ADJUSTING ANTI-TIPPERS](#) in this procedure of the manual.

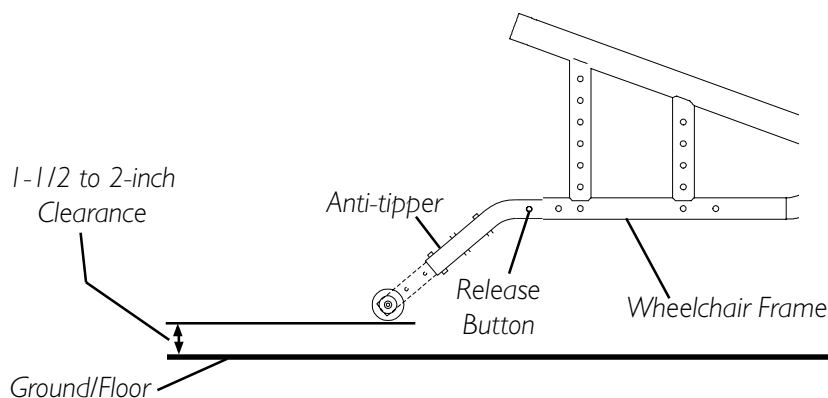
### ADJUSTING

1. Depress the release button on the wheeled portion of the anti-tipper and slide it up/down to achieve 1-1/2 to 2-inch clearance.

#### WARNING

**Anti-tippers MUST be fully engaged and release buttons fully protruding out of same respective adjustment holes BEFORE use. This will avoid a 3-Wheeling situation.**

2. Ensure that the release buttons are fully engaged in the adjustment holes and 1-1/2 to 2-inch clearance is maintained.



**FIGURE 5 - INSTALLING/ADJUSTING ANTI-TIPPERS**

*This Procedure Includes the Following:*

*Engaging Tilt-in-Space/Recliner Operation*

*Adjusting Tilt Trigger Release Cables*

*Positioning Tilt Locking Collars*

*Replacing Back/Headrest Upholstery - Recliner Models ONLY*

*Adjusting the Back Height - Recliner Models ONLY*

### WARNING

After **ANY** adjustments, repair or service and **BEFORE** use, make sure all attaching hardware is tightened securely. Otherwise, injury may result.

The back height, seat depth, back angle, seating system, tilt angle, seat height, size/position of the rear wheels, size/position of the front casters, as well as the user condition directly relate to the stability of the wheelchair. Any change to one (1) or any combination of the eleven (11) may cause the wheelchair to decrease in stability. These adjustments **MUST** be performed by a qualified technician.

### CAUTION

**DO NOT** over tighten hardware attaching to the frame. This could cause damage to the frame tubing.

## ENGAGING TILT IN SPACE/RECLINER OPERATION

### WARNING

Make sure the occupant of the wheelchair is properly positioned in the wheelchair **BEFORE** using the tilt-in-space, reclining or inclining (reverse recline) to maintain maximum stability and safety. Refer to **PROCEDURE 1 - GENERAL GUIDELINES** in this manual.

The Solara jr. wheelchair **MUST** be operated by an Assistant when in any tilt or reclined position.

Always engage both wheel locks while using the tilt-in-Space, reclining or inclining (reverse recline) the wheelchair.

**ALWAYS** wear your seat positioning strap. Inasmuch as the **SEAT POSITIONING STRAP** is an option on this wheelchair (You may order with or without the Seat Positioning Strap), Invacare strongly recommends ordering the Seat Positioning Strap as an additional safeguard for the wheelchair user.

**WARNING**

Both gas cylinders **MUST** be operational and adjusted properly **BEFORE** using recliner. **DO NOT** operate the recliner option if only one (1) of the gas cylinders is operational or adjusted properly.

Pinch Points exist between spreader bar and gas cylinders. Use caution, otherwise injury may occur.

When returning the occupant of the wheelchair to the full upright position, more body strength will be required for approximately the last twenty (20) degrees of incline (reverse recline). Make sure to use proper body mechanics (use your legs) or seek assistance to avoid injury.

TILT/RECLINE

**Tilt and Recline Combinations:**

**Recline** is a term used to define the **angle between the seat pan and the back.**

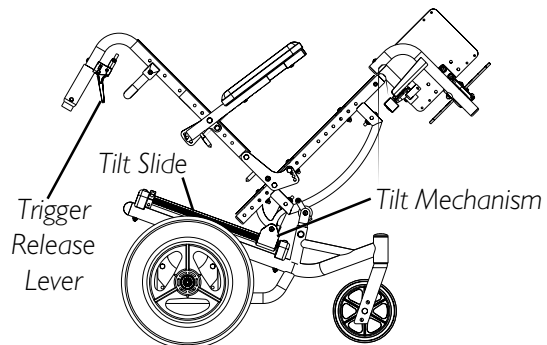
**Tilt** is a term used to define the **angle between the seat pan and the ground/floor.**

**ENGAGING TILT-IN-SPACE (FIGURE 1)****WARNING**

**ALWAYS** make sure that the wheelchair is stable **BEFORE** using the tilt-in-space. Rear wheels may have to be repositioned rearward depending on the degree of tilt-in-space required. **ALWAYS** ensure stability **BEFORE** using maximum amount of tilt-in-space. **TEST** wheelchair **BEFORE** it is occupied **BY** the end user to ensure safety.

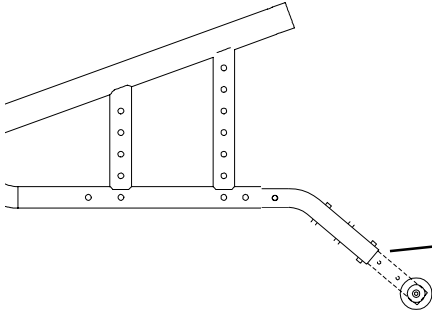
*NOTE: To lower the seat parallel with the floor, reverse the following procedure.*

1. Place the wheelchair on a level surface.
2. Engage both wheel locks.
3. Inform the occupant of the wheelchair that the wheelchair is about to be tilted and remind them to lean back.
4. Make sure the occupant's hands and body are clear of all pinch points.
5. Stand behind the wheelchair and grasp both back canes firmly.
6. Pull up on the trigger release levers to release the tilt mechanism from the tilt slide.
7. **SLOWLY**, push down on the back canes while pulling up on the trigger release levers in a continuous motion.
8. When the seat reaches the desired angle, **SLOWLY** let go of the trigger release levers.



**FIGURE 1 - ENGAGING TILT-IN-SPACE**



**RECLINER OPERATION (FIGURE 2)****WARNING**

**ALWAYS** make sure that the wheelchair is stable in the full reclined (back at 180°) position and the full upright (back at 90°) position **BEFORE** using the recliner option.

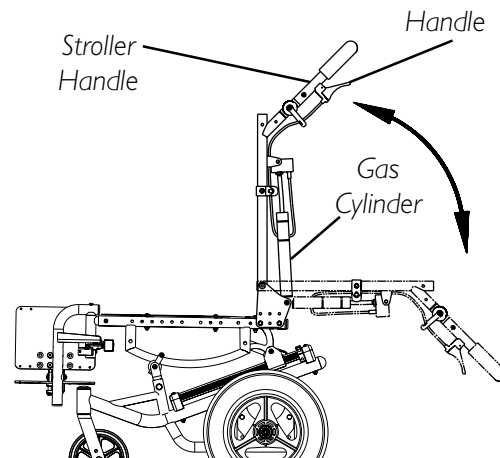
**Before** using the recliner option, make sure the anti-tipper wheel assemblies are in the lowest adjustment hole (adjustment hole closest to the ground/floor.)

**Before using ANY** recline position of this wheelchair, make sure the rear wheels are in the **MOST REARWARD** position to maintain the stability of the wheelchair. **DO NOT** change the handling/maneuverability of the wheelchair by moving the rear wheels to any of the forward positions. moving the rear wheels to any of the forward positions will change the center of gravity of the wheelchair, making the wheelchair less stable.

**RECLINER OPTION ONLY - ALWAYS** return the back to the upright position before lifting the wheelchair.

**Make sure** occupant's hands and body are clear of all pinch points **BEFORE** reclining back. Pinch Points exist between spreader bar and gas cylinders. Use caution, otherwise injury may occur.

1. Make sure the wheelchair is on a level surface.
2. Engage the wheel locks. Refer to USING THE WHEEL LOCKS in PROCEDURE 8 of this manual.
3. Inform the occupant of the wheelchair that the wheelchair is about to be reclined.
4. Make sure occupant's hands and body are clear of all pinch points.
5. Stand behind the wheelchair and grasp the stroller handle firmly.
6. Pull up on the handles of the recliner cable assemblies to activate the gas cylinders.
7. **SLOWLY**, squeeze the handles of the recliner cable assemblies and perform one (1) of the following:
  - A. **RECLINING** - allow the back to recline to the desired angle.
  - B. **RETURNING TO UPRIGHT POSITION** - Pull up and push the stroller handle towards the front of the wheelchair until the back is in the upright position.
8. When the back reaches desired angle, slowly release the handles of the recliner cable assemblies.
9. Disengage the wheel locks. Refer to USING THE WHEEL LOCKS in PROCEDURE 8 of this manual.



**FIGURE 2 - RECLINER OPERATION**

## ADJUSTING TILT TRIGGER RELEASE CABLES (FIGURE 3)

*NOTE: This procedure applies to tilt-in-space release cables ONLY.*

### WARNING

**DO NOT** adjust the trigger release cables while the cables are coiled up. The adjustment will be too tight when the cable is straightened and the tilt mechanism will not lock and hold its position, possibly causing injury.

1. To adjust the **LEFT** tilt mechanism:
  - Squeeze the trigger release lever of the **RIGHT** cable assembly and try to tilt the wheelchair. The wheelchair should not tilt.
2. If the **LEFT** side of the wheelchair tilts without squeezing the trigger release lever of the **LEFT** cable assembly, perform the following steps:
  - A. Loosen the cable locking nut that secures the cable adjusting nut in place.
  - B. Turn cable adjusting nut one (1) of two (2) ways:

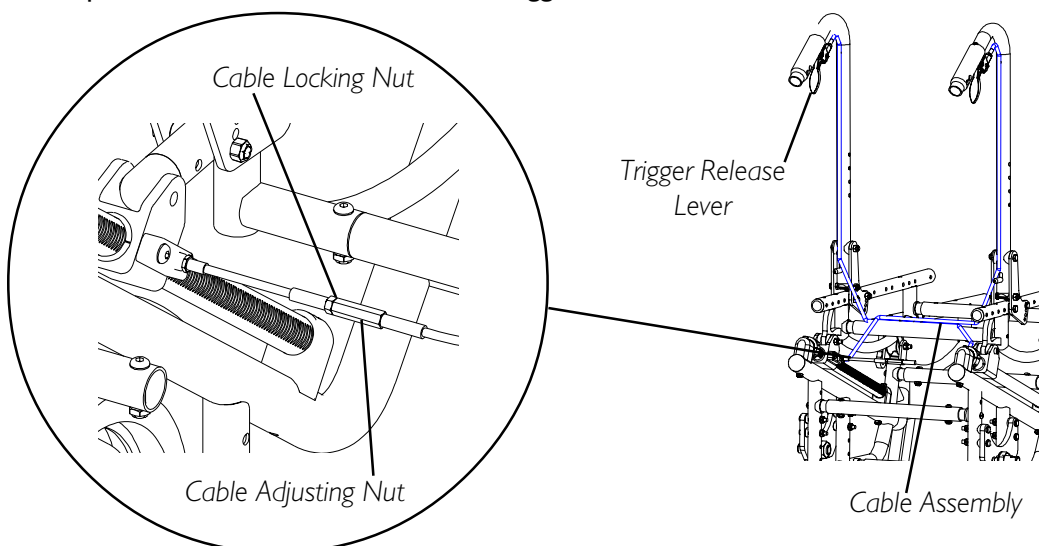
*NOTE: If the cable is too loose, the tilt mechanism will not work.*

### WARNING

**DO NOT** over tighten the cable adjusting nut on the cable. Over tightening the cable adjusting nut on the cable **WILL** unlock the tilt mechanism, possibly causing injury.

- **TO TIGHTEN** - Turn the cable adjusting nut **CLOCKWISE**. **DO NOT** over-tighten the cable adjusting nut. Refer to **FIGURE 2**.
  - **TO LOOSEN** - Turn the cable adjusting nut **COUNTERCLOCKWISE**. Refer to **FIGURE 2**.
- C. While holding the cable adjusting nut in place, tighten the cable locking nut against the cable adjusting nut.
  - D. Repeat STEP 1.
  - E. Repeat STEP 2 until the **LEFT** side of the wheelchair **DOES NOT** tilt.
3. To adjust the **RIGHT** tilt mechanism:
 

Repeat STEPS 1 and 2 for the **LEFT** trigger release lever.



**FIGURE 3 - ADJUSTING TRIGGER RELEASE CABLES**

## POSITIONING TILT LOCKING COLLARS

### WARNING

Anterior (forward) tilt is a feature of this wheelchair designed for the **USE OF A HEALTHCARE PROFESSIONAL or ASSISTANT ONLY**. Engagement of the anterior (forward) tilt must **NEVER** be performed by the wheelchair user. When anterior (forward) tilt is needed, it must **ALWAYS** be engaged by a **HEALTHCARE PROFESSIONAL or ASSISTANT**.

The back height, seat depth, back angle, seating system, tilt angle, seat height, size/position of the rear wheels, size/position of the front casters, as well as the user condition directly relate to the stability of the wheelchair. Any change to one (1) or any combination of the eleven (11) may cause the wheelchair to decrease in stability. These adjustments **MUST** be performed by a qualified technician.

**DO NOT** operate the wheelchair when the seat frame is in the anterior (forward) tilt position (frame stops in the lower position and approximately 5° forward tilt). Serious bodily injury may occur to the patient and the assistant(s).

#### TO HEALTHCARE PROFESSIONALS/ASSISTANTS:

Make sure the occupant of the wheelchair is properly positioned in the wheelchair **BEFORE** reclining or inclining (reverse recline) to maintain maximum stability and safety. Ensure all hands and legs are out of the way of pinch points.

Always engage both wheel locks.

After **ANY** adjustments, repair or service and **BEFORE** use, make sure all attaching hardware is tightened securely and locking collars are positioned at the same position on the tilt slide.

### ADJUSTING UPPER TILT LOCKING COLLAR (FIGURE 4)

*NOTE: This procedure adjusts the degree of tilt that the wheelchair returns to for normal operation. If the amount of tilt **MUST** be limited, refer to ADJUSTING LOWER TILT LOCKING COLLAR in this procedure of the manual.*

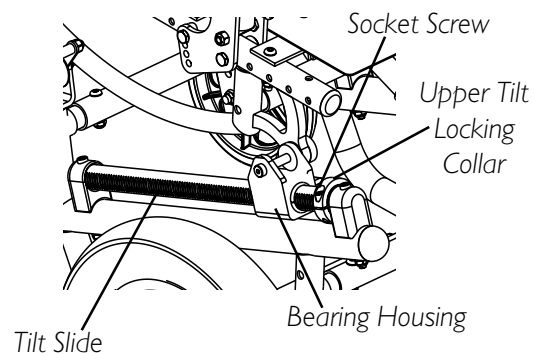
1. Loosen the two (2) socket screws that secure the tilt locking collar to the tilt slide.
2. Repeat STEP 1 for opposite side of wheelchair.

*NOTE: To determine tilt angle relative to the seat frame, place a magnetic protractor (available at any hardware store) on the back and adjust the back until the magnetic protractor reads desired angle of tilt.*

3. Tilt the wheelchair to the desired angle of tilt.
4. Position the two (2) tilt locking collars against the bearing housing.

*NOTE: Before tightening, ensure that the two (2) tilt locking collars are at the same position on the tilt slide.*

5. Securely tighten the four (4) socket screws of the tilt locking collars.



**FIGURE 4 - ADJUSTING UPPER TILT LOCKING COLLAR**

## ADJUSTING LOWER TILT LOCKING COLLAR (FIGURE 5)

*NOTE: This procedure limits the amount of tilt the wheelchair may have. The maximum amount of tilt available is 45°. If adjusting the angle the wheelchair returns to, refer to ADJUSTING UPPER TILT LOCKING COLLAR in this procedure of the manual.*

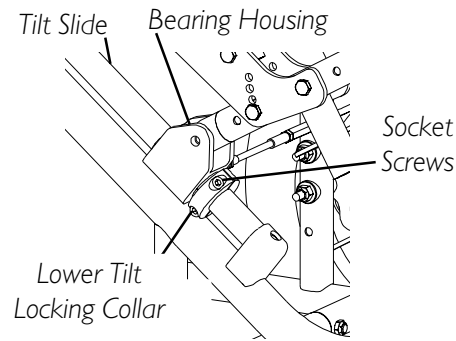
1. Loosen the two (2) socket screws that secure the tilt locking collar to the tilt slide.
2. Repeat STEP 1 for opposite side of wheelchair.

*NOTE: To determine tilt angle relative to the seat frame, place a magnetic protractor (available at any hardware store) on the back and adjust the back until the magnetic protractor reads desired angle of tilt.*

3. Tilt the wheelchair to the desired angle of tilt.
4. Position the two (2) tilt locking collars against the bearing housing.

*NOTE: Before tightening, ensure that the two (2) tilt locking collars are at the same position on the tilt slide.*

5. Securely tighten the four (4) socket screws of the tilt locking collars.

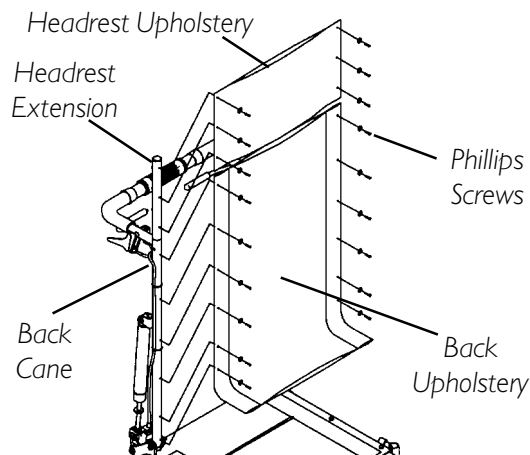


**FIGURE 5 - ADJUSTING LOWER TILT LOCKING COLLAR**

## REPLACING BACK OR HEADREST UPHOLSTERY (RECLINER MODELS ONLY) (FIGURE 6)

### REPLACING THE BACK UPHOLSTERY

1. Remove the ten (10) phillips screws (depending on back height) that secure the back upholstery to the back canes.
2. Remove existing back upholstery from back canes.
3. Install new back upholstery onto the back canes.
4. Install the ten (10) phillips screws (depending on back height) that secure the back upholstery to the recliner back canes.



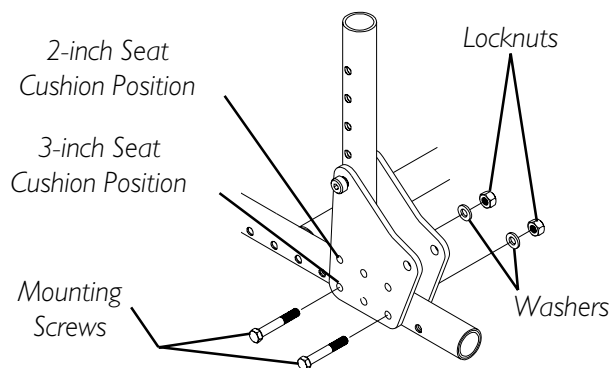
**FIGURE 6 - REPLACING BACK OR HEADREST UPHOLSTERY (RECLINER MODELS ONLY)**

### REPLACING THE HEADREST UPHOLSTERY

1. Remove the six (6) phillips screws that secure the headrest upholstery to the headrest extensions.
2. Remove the existing headrest upholstery from the headrest extensions.
3. Install the new headrest upholstery onto the headrest extensions.
4. Install the six (6) phillips screws that secure the headrest upholstery to the headrest extensions.

## ADJUSTING THE BACK HEIGHT - RECLINER MODELS ONLY (FIGURE 7)

1. If necessary, remove the rear wheels. Refer to REMOVING/INSTALLING THE REAR WHEELS in PROCEDURE 7 of this manual.
2. Remove the two (2) mounting screws and locknuts that secure the seat adjustment plates to the seat rail. Repeat for opposite side.
3. Refer to FIGURE 7 to determine the seat adjustment plate mounting position for the corresponding seat cushion height.
4. Position the seat adjustment plates on the seat rails at the position determined in STEP 3.
5. Secure the seat adjustment plates to the seat rail with the two (2) existing mounting screws. Repeat for opposite side.
6. Securely tighten mounting screws.
7. If necessary, reinstall the rear wheels. Refer to REMOVING/INSTALLING THE REAR WHEELS in PROCEDURE 7 of this manual.



**FIGURE 7 - ADJUSTING THE BACK HEIGHT - RECLINER MODELS ONLY**

***This Procedure Includes the Following:***

***Contracture Assembly Angle Adjustment***

***Using The Optional Quick Release Pin***

***Angle Adjustment of the Contracture Footplate***

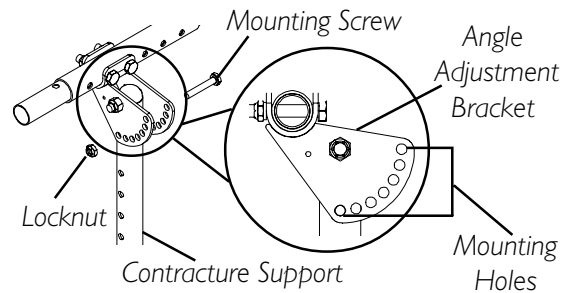
***Contracture Footplate Depth Adjustment***

***Contracture Footplate Height Adjustment***

***Replacing The Contracture Footplate Heel Loop***

## **CONTRACTURE ASSEMBLY ANGLE ADJUSTMENT (FIGURE 1)**

1. Remove the mounting screw and locknut used to lock the angle adjustment of the contracture assembly.
2. Lift the contracture support UP/DOWN to achieve the desired angle.
3. Align the mounting hole in the contracture support with one (1) of seven (7) mounting holes on the angle adjustment bracket.
4. Reinstall the mounting screw and locknut used to lock the angle adjustment of the contracture assembly. Securely tighten.
5. If necessary repeat STEPS 1-4 on remaining contracture assembly.



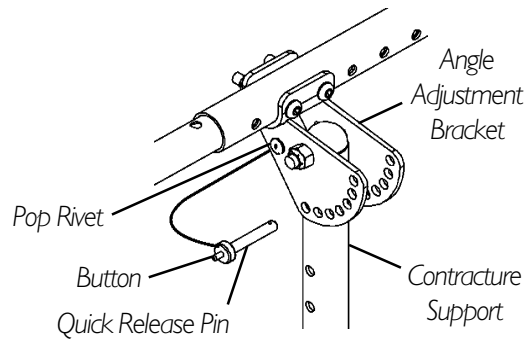
**FIGURE 1 - CONTRACTURE ASSEMBLY ANGLE ADJUSTMENT**

## USING THE OPTIONAL QUICK RELEASE PIN (FIGURE 2)

*NOTE: The Quick Release Pin replaces the mounting screw that is used to lock the angle adjustment of the contracture support.*

*NOTE: If not installed at time of shipment, the quick release pin must be installed by a qualified technician only, using a 1/8-inch pop rivet.*

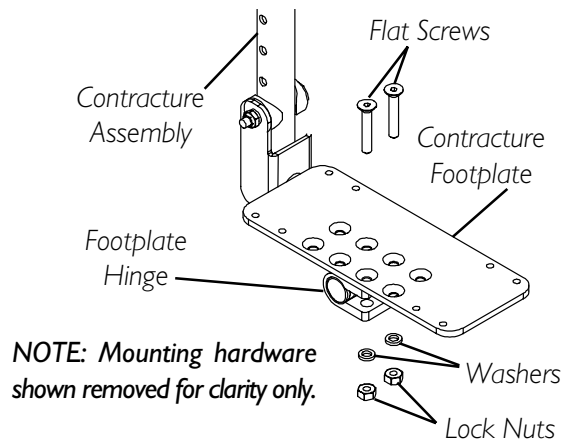
1. Press the button on the quick release pin and insert through the contracture support and the angle adjustment bracket.
2. If necessary adjust the angle of the contracture assembly. Refer to CONTRACTURE ASSEMBLY ANGLE ADJUSTMENT in this procedure of the manual.
3. Repeat STEPS 1-2 on the remaining contracture assembly.



**FIGURE 2 - USING THE OPTIONAL QUICK RELEASE PIN**

## ANGLE ADJUSTMENT OF THE CONTRACTURE FOOTPLATE (FIGURE 3)

1. Loosen, but DO NOT, remove the two (2) flat screws, washers and locknuts that secure contracture footplate to the footplate hinge.
2. Tilt the contracture footplate UP/DOWN to achieve desired angle.
3. Retighten the two (2) flat screws, washers and locknuts that secures the contracture foot plate to the footplate hinge.
4. If necessary repeat STEPS 1-3 on remaining contracture footplate.



*NOTE: Mounting hardware shown removed for clarity only.*

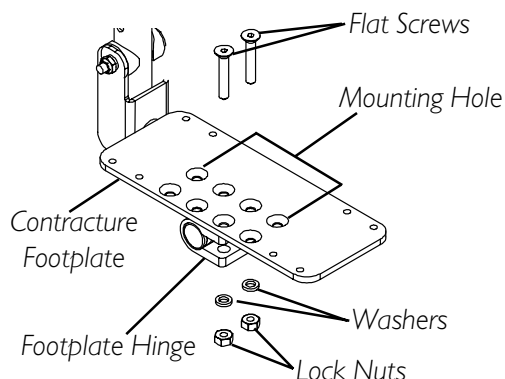
**FIGURE 3 - ANGLE ADJUSTMENT OF THE CONTRACTURE FOOTPLATE**

## CONTRACTURE FOOTPLATE DEPTH ADJUSTMENT (FIGURE 4)

*NOTE: Refer to the WARNINGS in PROCEDURE 1 of this manual.*

*NOTE: Observe the angle of the contracture footplate for reinstallation.*

1. Remove the two (2) flat screws, washers and locknuts that secure the contracture footplate to the footplate hinge.
2. Move the contracture footplate to one (1) of four (4) mounting holes.
3. Reinstall the two (2) flat screws, washers and locknuts that secures the contracture foot plate to the footplate hinge.

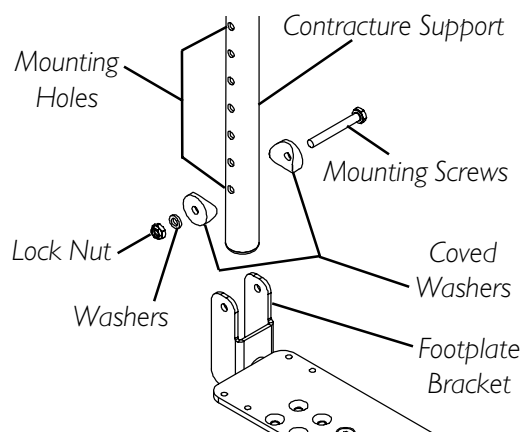


**FIGURE 4 - CONTRACTURE FOOTPLATE DEPTH ADJUSTMENT**

**CONTRACTURE FOOTPLATE HEIGHT ADJUSTMENT (FIGURE 5)**

*NOTE: Refer to the WARNINGS in PROCEDURE 1 of this manual.*

1. Remove the mounting screw, two (2) covered washers, washer and locknut that secure the footplate bracket to the contracture support.
2. Move the footplate bracket UP/DOWN to achieve desired height.
3. Align the mounting hole in the footplate bracket with one (1) of seven (7) mounting holes on the contracture support.
4. Secure the footplate bracket to the contracture support with the mounting screw, two (2) covered washers, washer and locknut. Securely tighten.
5. If necessary repeat STEPS 1-4 on remaining contracture footplate.

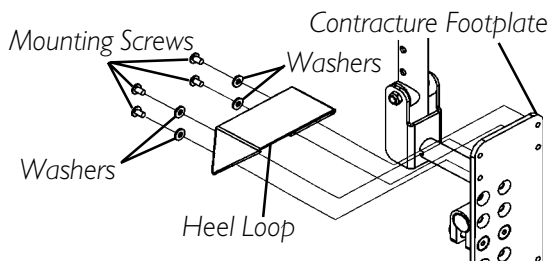


**FIGURE 5 - CONTRACTURE FOOTPLATE HEIGHT ADJUSTMENT**

**REPLACING THE CONTRACTURE FOOTPLATE HEEL LOOP (FIGURE 6)**

*NOTE: Refer to the WARNINGS in PROCEDURE 1 of this manual.*

1. Tilt the contracture footplate forward to gain access to the mounting screws that secure the heel loop to the underside of the contracture footplate. Refer to ANGLE ADJUSTMENT OF THE CONTRACTURE FOOTPLATE in this procedure of the manual.
2. Remove the four (4) mounting screws and washers that secure the EXISTING heel loop to the contracture footplate.
3. Reverse STEPS 1-2 to install the NEW heel loop.



**FIGURE 6 - REPLACING THE CONTRACTURE FOOTPLATE HEEL LOOP**







## LIMITED WARRANTY

**PLEASE NOTE: THE WARRANTY BELOW HAS BEEN DRAFTED TO COMPLY WITH FEDERAL LAW APPLICABLE TO PRODUCTS MANUFACTURED AFTER JULY 4, 1975.**

This warranty is extended only to the original purchaser/user of our products.

This warranty gives you specific legal rights and you may also have other legal rights which vary from state to state.

Invacare warrants its product, except for the seat cushion (which is not warranted), to be free from defects in materials and workmanship for a period of one (1) year from date of purchase. The side frames and crossmembers are warranted for the lifetime of the original purchaser/user. If within such warranty period any such product shall be proven to be defective, such product shall be repaired or replaced, at Invacare's option. This warranty does not include any labor or shipping charges incurred in replacement part installation or repair of any such product. Invacare's sole obligation and your exclusive remedy under this warranty shall be limited to such repair and/or replacement.

For warranty service, please contact the dealer from whom you purchased your Invacare product. In the event you do not receive satisfactory warranty service, please write directly to Invacare at the address on the bottom of the page, provide dealer's name, address, date of purchase, indicate nature of the defect and, if the product is serialized, indicate the serial number. Do not return products to our factory without our prior consent.

**LIMITATIONS AND EXCLUSIONS: THE FOREGOING WARRANTY SHALL NOT APPLY TO SERIAL NUMBERED PRODUCTS IF THE SERIAL NUMBER HAS BEEN REMOVED OR DEFACED, PRODUCTS SUBJECTED TO NEGLIGENCE, ACCIDENT, IMPROPER OPERATION, MAINTENANCE OR STORAGE, PRODUCTS MODIFIED WITHOUT INVACARE'S EXPRESS WRITTEN CONSENT INCLUDING, BUT NOT LIMITED TO, MODIFICATION THROUGH THE USE OF UNAUTHORIZED PARTS OR ATTACHMENTS; PRODUCTS DAMAGED BY REASON OF REPAIRS MADE TO ANY COMPONENT WITHOUT THE SPECIFIC CONSENT OF INVACARE, OR TO A PRODUCT DAMAGED BY CIRCUMSTANCES BEYOND INVACARE'S CONTROL, AND SUCH EVALUATION WILL BE SOLELY DETERMINED BY INVACARE. THE WARRANTY SHALL NOT APPLY TO PROBLEMS ARISING FROM NORMAL WEAR OR FAILURE TO ADHERE TO THESE INSTRUCTIONS.**

**THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IN LIEU OF ANY OTHER WARRANTIES WHATSOEVER, WHETHER EXPRESS OR IMPLIED, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, AND THE SOLE REMEDY FOR VIOLATIONS OF ANY WARRANTY WHATSOEVER, SHALL BE LIMITED TO REPAIR OR REPLACEMENT OF THE DEFECTIVE PRODUCT PURSUANT TO THE TERMS CONTAINED HEREIN. THE APPLICATION OF ANY IMPLIED WARRANTY WHATSOEVER SHALL NOT EXTEND BEYOND THE DURATION OF THE EXPRESS WARRANTY PROVIDED HEREIN. THE MANUFACTURER SHALL NOT BE LIABLE FOR ANY CONSEQUENTIAL OR INCIDENTAL DAMAGES WHATSOEVER.**

**THIS WARRANTY SHALL BE EXTENDED TO COMPLY WITH STATE/PROVINCIAL LAWS AND REQUIREMENTS.**



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